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THE DETERMINATION OF LEGAL FACTS AND ECONOMIC GUIDEPOSTS WITH RESPECT TO THE DISSEMINATION OF SCIENTIFIC AND EDUCATIONAL INFORMATION AS IT IS AFFECTED BY COPYRIGHT--A STATUS REPORT. FINAL REPORT.

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COMMITTEE TO INVESTIGATE COPYRIGHT PROBLEMS (CICP)

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THE RESEARCH IN THIS REPORT IS CONCERNED WITH TWO AREAS--(1) STUDY OF THE COPYRIGHT PRACTICES OF LIBRARY ADMINISTRATORS RESPONSIBLE FOR PHOTODUPLICATION SERVICES AND THEIR INTERPRETATIONS OF THE "FAIR USE" ASPECT OF COPYRIGHT LAW IN PROVIDING SERVICE TO THEIR CLIENTS, AS WELL AS A STUDY OF WHAT FEDERAL STATUTE AND CASE LAW ACTUALLY PROVIDES IN THIS AREA AND (2) THE FIRST STUDY OF LIBRARY COPYING ON A LARGE-SAMPLE SCALE WITH REFERENCE TO THE ECONOMICS OF COPYRIGHT. THIS SECOND INVESTIGATION RESULTED IN A NUMBER OF STATISTICS AND ONE OR MORE POSSIBLY NEW USAGE RELATIONS. AT LEAST ONE BILLION PAGES OF PROFESSIONAL AND SCHOLARLY COPYRIGHTED MATERIAL ARE MADE ANNUALLY AS SINGLE COPIES. MULTIPLE COPYING IS NEGLIGIBLE IN U.S. LIBRARIES. EIGHTY-FIVE PERCENT OF THE MATERIAL COPIED IS LESS THAN FIVE YEARS OLD, AND IT IS PREPONDERANTLY SCIENTIFIC-TECHNICAL IN NATURE AND IN THE FORM OF COMPLETE ARTICLES COPIED FROM JOURNALS, PUBLISHED BY NONPROFIT PUBLISHERS. FIVE PERCENT OF THE FEWER THAN 1,000 PUBLISHERS WHOSE WORKS ARE COPIED ACCOUNT FOR 40 PERCENT OF THE MATERIAL COPIED IN U.S. LIBRARIES. THE REPORT CONCLUDED THAT UNDER CURRENT BELIEFS AND PRACTICES SINGLE-COPY REPRODUCTION IS NOT SIGNIFICANTLY AFFECTED OR RESTRICTED BY COPYRIGHT LAW, AND RECOMMENDS THAT THE CONGRESS CONSIDER THIS FACT IN WRITING FUTURE LEGISLATION. AN OPEN ATTITUDE IS HELD BY LIBRARY ADMINISTRATORS TOWARD A SYSTEM OF COPYRIGHT ACCESS, PERMISSIONS, AND PAYMENTS, PROVIDED THERE BE JOINT USER-OWNER CONTROL. MANY OTHER CONCLUSIONS, APPLICATIONS AND RECOMMENDATIONS ARE REPORTED. INCLUDED IN APPENDICES ARE THE FIRST ANNUAL REPORT BY THE COMMITTEE TO INVESTIGATE COPYRIGHT PROBLEMS AFFECTING COMMUNICATION IN SCIENCE AND EDUCATION (CICP) AND RELEVANT TABLES FROM THE CICP LIBRARY SURVEY. (AUTHOR/JB)

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December 1967

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

Final Report

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The Determination of Legal Facts and Economic Guideposts with Respect to the Dissemination of Scientific and Educational Information as It is Affected by Copyright - A Status Report

by

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and
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Committee to Investigate Copyright Problems
Affecting Communication in
Science and Education, Inc.

Washington, D.C.
December, 1967

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U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

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Summary

1968 is apparently a critical year for the copyright law and copyright principle. The crisis has been building up for a decade and as in the case of all crises, retrospective examination clearly shows all of the evidence which should have caused our society to take early corrective measures. As of the date of submission of this report, the Copyright Revision Bill, H.R. 2512/S.597, has been passed by the House (April 12, 1967), but S.597, the identical bill, has not yet been reported to the Senate; the bill to establish "A National Commission on New Technological Uses of Copyrighted Works," S.2216, was passed by the Senate on October 12, 1967, but the House version has not been reported nor have hearings been held. User-oriented groups are vigorously debating in the offices of the Register of Copyrights the need or the lack of need for a moratorium, which would hold the possibility of user infringement in abeyance during the proposed three-year life of the Commission. The Williams & Wilkins Company, a major publisher of professional journals, has brought suit against the National Library of Medicine in the United States Court of Claims under section 1498b of title 28 of the U.S. Code. The United Artists Television Inc. vs. Fortnightly Corporation case 255 (S.D. N.Y. 1966) will be heard by the Supreme Court on March 12, 1968. These are some of the stresses and strains occuring between the well-established principle of copyright and modern information transfer technology. Because of this social, legal and technological conflict, it has been particularly hard to write this status report. A number of significant changes may occur while it is being disseminated. Still it had to be done so that our policy makers might have some data on which to base decisions and take action. It was also felt that some platform was required from which further studies could be initiated. This report is intended to provide such a base. It is organized by chapters, of which the first four are introductory to the fifth, which contains the substance of the report and conclusions.

History

In a sense the report supplements a 1960 study "First Annual Report by CICP Study Group," May 10, 1960 (Appendix A to the report).

This study anticipated today's problems and reported that the cost factor and the convenience of emerging copying devices would improve rapidly and that: (1) the user might be ignorant of, or ignore, or not obey copyright law and (2) the amount of infringement would grow very large within a few years. Time has sustained the truth of these observations. A clearance system for access, permissions and payments was suggested as the most reasonable way to solve the problem. The report and recommendations received little attention at that time.

Findings and Analysis

Chapter 5 of the report titled "Analysis of Current Practices of Libraries and Information Centers and the Resulting Size of the Problem," contains two sections. Section I "Analysis of Current Practices of Libraries and Information Centers," reviews the attitudes of librarians toward the copyright principle, and analyzes how these attitudes determine their operating practices. Section II is concerned with the "Economics of Copying of Copyrighted Works. It measures the amount of copying of copyrighted periodicals and books located in libraries and information centers. Particular attention is given to the kind of material copied, the currency of the material copied, and the publisher-source of the material.

The data for Chapter 5 were obtained from 66 separate in-depth interviews at selected active copying U.S. libraries, and from the detailed records of one month's copying by six libraries on forms designed by CICP. These data plus other pertinent literature constitute the basic data bank for this report.

A separate chapter, Chapter 3, "Fair Use: What is the Law?" precedes Chapter 5. It's purpose, to quote Newsweek, is "to separate fact from opinion" as regards the law of "fair use." So much attention is given to "fair use" because library administrators have assumed until now that the legal right to make single copies for scholarly or professional purposes depends on the validity of this concept. Therefore many important library photoduplication programs may rest or fall on the correct interpretation of this court-developed legal principle.

Almost every librarian interviewed considered the making of a single copy of any part of a copyrighted work as within the meaning of "fair use." The most commonly-cited authority for this belief is the report of the Joint Libraries Committee on Fair Use in Photocopying, 1961, "Fair Use in Photocopying: Report on Single Copies," which concluded that:

> (1) The making of a single copy by a library is a direct and natural extension of traditional library service.
> (2) Such service, employing modern copying methods, has become essential.
> (3) The present demand can be satisfied without inflicting measurable damage on publishers and copyright owners.
> (4) Improved copying processes will not materially affect the demand for single-copy library duplication for research purposes.

Yet the law in general, despite the "fair use" principle, prohibits single-copy reproduction without the express permission of the copyright owner. Thus a legal guideline, essentially developed for trivial situations, is currently used as the authority for a national pattern of professional and scholarly information dissemination based among other things on the most efficient textual and graphic duplicating devices.

A single-copy infringement of any particular copyrighted work in most cases does not measurably damage a copyright owner. No specific program for providing copies by any one library appears to damage the infringed copyright owners. However, single-copy reproduction at all libraries has a cumulative effect that can be measured. The report measures aspects of this cumulative effect for the first time and obtains some interesting results:

1. Copying of copyrighted materials in the major resource libraries is primarily at the single-copy level (about 97 per cent of the total). Multiple copying is negligible--about 3 per cent of the total.

2. There is, at present, no general practice in library administration which limits single-copy reproduction. Limitation is economic.

3. The bulk (about three-quarters) of U.S. copying is in science and engineering.

4. The bulk of U.S. copying is from the serial literature, next is book copying. The ratio is 10 to 1 by titles, nearly 4 to 1 by numbers of exposures made from these titles.

5. The ratio of hard copies to microcopies is 5 to 1.

6. More material is copied from nonprofit than from for-profit publications (about 3 to 2).

7. Eighty-five per cent of the materials copied in U.S. libraries are less than five years old; 90 per cent are less than ten years old.

8. It is estimated that in 1967 over one billion copyrighted pages were copied in the U.S.

9. Less than 1,000 publishers provide the material copied by U.S. libraries. About 5 per cent of these provide roughly 40 per cent of the material copied.

10. Slightly less than a third of the major resource or copying libraries are participating in experimental interlibrary facsimile or file-searching systems.

11. Ninety-nine per cent of journal articles copied are copied as a whole.

While this study was severely limited to an examination and analysis of what might be called straightforward copying by libraries for the purpose of servicing their clientele, it was inevitable that certain other elements of the copyright problem would receive tangential examination. Two of these are: the problem of information networks (often associated with ideas such as computer storage and processing of data, and with facsimile transmission), and the question of the need for and desirability of a clearinghouse for access, permissions and payments for the extended use of copyrighted works.

Although an unwarrented concern may have been shown for the network problem up to this time, its potential as an area of considerable difficulty for the writing of future copyright legislation must not be ignored. However, the time available before the network conception becomes competitive with conventional interlibrary loan programs may range from five to ten years. This time should be used to re-examine the fundamental nature of the copyright principle, what is copyrightable, and at what point of transformation do the proprietary aspects of a copyrighted message lose their legal protection.

Though adjustments may be made by Congress and the courts as between the rights of the copyright owner and the rights of the user of copyrighted material, these reassessments or adjustments of rights will not eliminate the essential problem of how the copyright owner can control his rights and equity. A national copyright clearance system will apparently be even more necessary when and if networks become real.

Library administrators were queried on the concept of a copyright clearinghouse described as an organization which would have the following two functions: (1) It would be a single point to be contacted for blanket permission for reproduction of copyrighted material. (2) It would collect and disburse monies for the use of copyrighted material from users to copyright holders. It is significant that twice as many affirmative as negative responses were obtained. Many of the affirmative responses indicated a desire to settle an increasingly complex matter, rather than an enthusiastic approval of the idea.

The next question (query 43) asked, "What type of control or sponsorship would you favor for the organization [of a clearinghouse]?" The responses indicated unanimously an insistence on equitable representation of the user and the publisher as representing the copyright owner in the management of such a clearinghouse.

Preface

The authors of this report have watched for a decade with growing concern the deterioration of the principles of copyright and observed the general lack of interest and consideration as to whether this is good or bad for science, technology and education.

The reader of a report that is not merely the recording and evaluation of physical phenomena is entitled to know something about the authors beyond the fact that they have the qualifications, and something about the directors of the organization. When it concerns a subject that is a combination of legal-economic and educational problems, it becomes even more important, especially when large interests are involved in the problem under investigation--school systems, publishers, libraries, manufacturing industiies and the scientific community--to name a few.

The co-authors are members of and have been presidents of the American Documentation Institute (now the American Society for Information Sciences). Their livelihoods for the past fifteen years have in one way or another depended on the growing importance of information science as a profession rather than as an *ad hoc* conglomeration of many communications methods.

In 1960 they joined with a number of other individuals to incorporate the Committee to Investigate Copyright Problems Affecting Communication in Science and Education (CICP) in response to the unanimous vote of the attendees at a second *ad hoc* meeting on copyright problems affecting communication in science and education. The group had met in May of the previous year to consider the fact that:

> The present copyright system presents an increasingly serious problem because of the tremendous need for reproduction and dissemination of scientific and educational information. The communication of this information is unduly restricted under the overall copyright system. . . .
>
> It is felt that the interests of our country can best be served through the fullest interchange of s scientific and educational information. With this

> objective in mind we are interested in investigating how the free flow of information can be maintained and advanced on an ethical, legal and efficient basis without depriving the copyright proprietor of his rights.[1]

As with most new ideas, the hopes and the keeping of the faith resided in a few men. They not only kept the formal structure but the idea of CICP alive for more than half a decade, while waiting for its goals and objectives to become more generally understood. They are the directors of CICP:

Dr. Howard Meyerhoff, President and Chairman of the Board. Dr. Meyerhoff, now retired, is a geologist by profession. His last post was Chairman of the Department of Geology at the University of Pennsylvania. He also has been editor and publisher of Science and the Scientific Monthly, and was at the time of CICP's incorporation Executive Director of the Scientific Manpower Commission.

The late Joseph A. McDonald, Esquire, prominent copyright attorney and onetime Chairman of the Copyright Committee of the American Bar Association, was an incorporating director and our first Vice President. He earlier than most attorneys understood the impact information science would have on copyright law, the large amount of interaction that had to occur between the two and the need for early accommodation. We cannot help but wonder: if he had lived, would accommodation have been swifter? He wrote our certificate of incorporation, which is included at the end of this preface.[2]

Mr. A.L. Baptie, former President of the Microcard Corporation, now with National Cash Register, showed remarkable tolerance for the time the principal investigator of this report took from Microcard during CICP's formative years, while he was an employee of the corporation. Mr. Baptie is now a CICP director and its Treasurer. These positions were offered and accepted several years after the principal investigator had left the Microcard Corporation.

Walter J. Derenberg, Esquire, a director, is Professor of Copyright Law at New York University, Executive Director of the Copyright Society of the U.S.A., editor of the Copyright Bulletin of the U.S.A. He filled the vacancy left by Mr. McDonald's death.

Dr. Luther H. Evans, former Librarian of Congress and Director General of UNESCO, became a director this year. It was on his motion that the ad hoc committee resolved in 1960 to incorporate.

Dr. Laurence B. Heilprin, co-investigator for this report, is a director and Vice President of CICP, Chairman of the CICP Study Group. He was formerly on the staff of the Council on Library Resources, and is now professor of Information Science at the University of Maryland.

Mr. Gerald J. Sophar, principal investigator, is Executive Director and Secretary of CICP. Before this he was with the Microcard Corporation and Vice President of the Jonker Corporation.

CICP anticipated a problem by observing its gestation and birth. It hoped that the signs of impending chaos would cause the affected and presumably concerned human elements of the information transfer process to recognize common needs and prepare for the inevitable conflict, thus avoiding the crisis. This did not happen. A Copyright Revision Bill has still not been passed by the Congress, and partly as a consequence, the Congress will now probably establish a National Commission on New Technological Uses of Copyrighted Works. The problem remains.

From the viewpoint of the information scientist, copyright may appear as an impediment to the most efficient flow of information. It is apparently a blockage in an information system. Our early tendency was to oppose and try to limit the protection and control granted in copyright for the sake of efficiency. After careful analysis we no longer do.

There is a philosophical reason for not wanting to see copyright destroyed and there are a number of practical reasons. The philosophical reason is simply a belief that copyright is one of a number of ways in which our society expresses its belief and hope that an individual can continue his identity in a world of mass efforts by assuring the individual, his publisher or his association sufficient income from his ideas to maintain a degree of independence. The erosion of the economic value of copyright must lead to federal support of all kinds of writing and, of course, control.

The practical reasons flow from the philosophical reasons. Publishers, non-profit as well as commercial, will simply not be able to continue publishing under an eroded system. The scientific and other professional societies which, through their memberships, have done the most to develop information-handling tools and media are the ones most hurt by them. A means must be developed to assure payment to the copyright owner in return for unlimited and uncontrolled access to and duplication of the copyrighted work.

Our only concern and "vested interest" in copyright since we became interested in the problem "is to find a way to protect the 'exclusive Right' of an author to his 'Writings,' while permitting the advantages of modern information dissemination systems to become as useful as they may without weakening or threatening the economic urge and the need to create." We believe the two must become reconciled, not in the interests of compromise, but simply because both concepts are too valuable for either one to be permitted to severely harm or destroy the other.

We want to thank the Bureau of Research of the U.S. Office of Education. The necessarily anonymous Government officials directly involved in the support of the program were more than helpful. They represent a non-parochial attitude towards the problem that transcends their specific mission and interests.

We want to thank the Register of Copyrights and his principal staff, who more than any others, taught us many of the less-apparent aspects of copyright law. They have always been willing to review CICP papers for correct legal context.

Mr. Saul Herner of Herner & Company, the sub-contractor, and his project officer, Mr. Melvin Weinstock, treated the sub-contract as if it were a prime effort and met not only the requirements, but also the schedule of the sub-contract.

Special thanks are due to the following libraries for recording and transmitting the special data on which the present survey is partly based: Bowdoin College Library; Fort Detrick Technical Library; Harvard University, Widener Library; Lockheed Missiles and Space Center, Technical Information Center, Palo Alto; the John Crerar Library; and the Stanford University Law Library.

Mr. Harold Nisselson, of Operations Research, Inc., provided guidance in designing the forms used in the six-library sampling.

NOTES

Preface

1. From a letter of invitation to attend a conference to investigate copyright problems affecting communication of educational and scientific information. More complete documentation concerning these early meetings can be found in "Hearings Before the Subcommittee on Patents, Trademarks, and Copyrights of the Committee on the Judiciary, United States Senate, Ninetieth Congress, First Session, Pursuant to S. Res. 37 on S. 597," Part 1, March 15, 16, and 17, 1967, pp. 107-140.

2. CERTIFICATE OF INCORPORATION

We, the undersigned, all citizens of the United States and a majority citizens of the District of Columbia, of full age, desiring to associate ourselves as a corporation pursuant to the provisions of Title 29, Chapter 6 of the Code of Laws of the District of Columbia, 1951 Edition, do hereby certify as follows:

1. The name or title by which such society shall be known in law is: Committee to Investigate Copyright Problems Affecting the Communication of Scientific and Educational Information, Inc.
2. The term for which it is organized shall be five years.
3. The particular business and objects of the society shall be: As a non-profit corporation, in the interest of improved scientific and educational communication and in furtherance of national defense and the public welfare, (a) to determine the facts with respect to the dissemination of scientific and educational information as it is affected by copyright and (b) to develop, and to assist in the implementation of, a plan under which the making of copies of copyrighted material might be suitably authorized on a basis fair to the owners of the material and to the makers, distributors and users of such copies.
4. The number of its trustees, directors or managers for the first year of its existence shall be five.

The names and respective addresses, including street and number, of the incorporators are:

Name	Address
Dr. Howard A. Meyerhoff	1507 M St., NW, Washington, D.C.
Dr. Laurence B. Heilprin	1025 Connecticut Ave., NW, Washington, D.C.

Mr. Gerald J. Sophar	404 N. Frederick Ave., Gaithersburg, Md.
Joseph A. McDonald, Esq.	1240 19th St., NW, Washington, D.C.

DISTRICT OF COLUMBIA, SS:

I, Ward Miller, a Notary Public in and for the District of Columbia, do hereby certify that Howard A. Meyerhoff, Laurence B. Heilprin, Gerald J. Sophar and Joseph A. McDonald, parties to a certain Certificate of Incorporation bearing date on the 21st day of September, 1960, and hereunto annexed, personally appeared before me in said District, the said four named individuals being personally well known to me as the persons who executed the said Certificate of Incorporation, and severally acknowledged the same to be their act and deed.

GIVEN under my hand and seal this 21st day of September, 1960.

(Notarial Seal)

/s/ Ward H. Miller
Notary Public

My Commission Expires
April 14, 1963

FILED
9 - 26 - 60

Alfred Goldstein
Superintendent of Corporations

Chapter 1

A Short History of the Problem, "Copyright Law and its Relationship to the Dissemination of Scientific, Technical and Educational Information"

The Ad Hoc Task Group on Legal Aspects Involved in National Information Systems of the Committee on Scientific and Technical Information (COSATI) stated in a recent report that it wasn't until recently that the Government's science managers had any indication of the serious conflict between copyright law and the concept of national information systems as outlined and analyzed in the report "Recommendations for National Document Handling Systems in Science and Technology."[1,2]

> No testimony was offered by any government agency on the impact of the proposed copyright revision on the computer usage of copyrighted material in national education programs or on the problems of national information systems. This may have occurred because the growth of technology and its use of information systems has only recently indicated the possible problems involved.[3]

This statement would be understandable if no consideration and study had been given to the kinds of socio-economic dislocation and change these systems were causing in library and information centers. The costs of operating the systems, the needs and attitudes of the users of the systems to the new services, the adaptability of the users to new information media, the needs, costs and patterns of the training of information scientists, the effect and usefulness of the systems to science, technology and education have all been investigated. A large body of literature has developed out of these social and economic concerns which demonstrate, at least, the public and governmental interest in these areas.[4] No comparably significant or sizeable literature exists about the relationships between copyright law and scientific, technological and educational information systems.

One kind of literature that does exist is the polemic kind, which can be roughly divided into two classes: (1) user-oriented, written by and for librarians, educators, scientists and information center specialists and (2) author-oriented, written by and for authors, publishers, and the copyright bar. This is understandable, but not excusable. Large doses of this adversary literature are in the House and Senate Committee Hearings on H.R. 2512/S. 597.[5,6]

Another kind is what may be called the "on the one hand, on the other hand" literature. It takes no position and is really no more than a combination of the two classes noted in the previous paragraph, liberally sprinkled with quotations from both sides.

A third kind is the legal treatise, usually written by a highly-trained copyright attorney. These documents are the most useful. Contrary to prevailing opinion, it is entirely possible to develop a clear understanding of what the copyright law is and how the courts will probably rule in cases involving large-scale dissemination of copyrighted scientific and educational information through highly-structured systems. A succinct, relatively current analysis of copyright law as it relates to "Protection for Books and Magazines against Machine Copying" has been written by David C. Petre.[7]

The kinds of documents most needed to prevent further deterioration of the social, economic and legal relationship between the publisher and the user are clear, non-self-serving studies, based on the recognition of two inescapable facts: (1) that the author and publisher, when all is said and done, will still have their essential bundle of rights and (2) the user will continue to violate these rights with comparative impunity. The only study prior to this report that clearly recognizes the relationship between the publisher and the user within the context of copyright law is the 1960 CICP study entitled, "First Annual Report of CICP Study Group," which is attached to this report as Appendix A.*

---

*The question of the credibility gap should not be limited to the larger public issues and therefore we have no choice but to ask, if only as a footnote, why the First Annual Report of the CICP Study Group was not discussed or referenced in the report of the COSATI Ad Hoc Task Group on Legal Aspects Involved in National Document Handling Systems.[8,9] The report has been published in Reprography and the Copyright Law, Lowell H. Hattery and George P. Bush, eds.,[10] and in the Bulletin of the Copyright Society of the U.S.A.[11] It is reprinted as testimony to the House and Senate Subcommittees on H.R. 2512/S.597,[12,13] and was given personally to the chairman of the COSATI Task Group.

To summarize, while serious attempts to examine the nature of the problem have not been financed or encouraged until this year, sufficient exposition and written debate has existed since 1952 to have clearly indicated to the policy-shaping and policy-making institutions, both private and government, the need for action.

The late Arthur Fisher, former Register of Copyrights, called attention to the problem as early as 1952: "These problems are accentuated by the invention of modern devices of many kinds facilitating the reproduction and transmission of knowledge. . ."

He then continued with a suggested solution:

> It has been suggested that these undertakings might be expanded by the organization of a society somewhat similar to the American Society of Composers, Authors and Publishers (ASCAP) which in the field of music licenses performance rights in the use of musical compositions. Such a society might solicit blanket authorizations to add an overriding charge to the present costs of microfilm and other reproduction of scientific articles, the charge either to be paid over to the proprietor of the works or donated to scientific development and related purposes.
>
> For certain types of use where the commercial and monetary aspects appear least significant, a series of calculated risks could be taken without involvement in efforts to secure specific consents. Such risks might be covered by some coinsurance device shared by a group of participating institutions or organizations.[14]

In 1958 the same thought was voiced by the principal investigator at a panel convened before the Division of Chemical Literature of the American Chemical Society in Chicago. A specific problem was described:

> The American Diabetes Association is anxious to undertake a program which would abstract some 1000 items per year and at the same time reproduce these items on Microcards. The literature would be problem-oriented rather than discipline-oriented. Such a compilation would quite obviously be invaluable to the clinician, the researcher and the educator. The cost for the reproduction of such material in micro-opaque form would not be great; the cost of obtaining the necessary permissions and

> the efforts and negotiations which would be required, make such a project completely uneconomical.[15]

To our knowledge, this is the first record of an attempt to use the microform to compile reports and articles according to discipline which was aborted because of the copyright problem.

This paper and the unpublished papers of Brode and Mohrhardt produced a strong reaction from the late Walter Murphy, editorial director, American Chemical Society. He editorialized in Chemical and Engineering News, October 6, 1958:

> In regard to scientific journals in particular, it may be the publishers rather than the authors who are concerned about photocopying. In a recent Report by the Subcommittee on Patents, Trademarks and Copyrights of the Senate Judiciary Committee (S. REP. 97, 86th Cong., 1st Sess. 12 (1959)), appears the following: "Most scientists feel that their work is not published to gain any financial reward for the authors but should provide scientific data which other scientists may freely use and build upon to advance the cause of science. On the other hand, the commercial publishers of scientific articles regard copyright protection as essential to meet their costs of publication. A clash between these authors and publishers occurs when public libraries or private industrial subscribers undertake to circulate numerous copies of scientific articles for the benefit of interested scientific personnel. The authors regard such copying as desirable. The publishers feel that it impairs their circulation and revenue."[16]

Study No. 15, May, 1959, prepared for the Senate Subcommittee on Patents, Trademarks and Copyrights by Borge Varmer of the staff of the Register of Copyrights, is the first official government recognition of today's problem.

> The need of researchers for ready access to a mass of materials is present in every field of scholarly investigation, but the problem is exemplified most clearly in the field of scientific and technical research. The body of scientific and technical literature has grown so rapidly during the last few decades that it would be extremely difficult for the individual scholar or researcher

> to gain access to the works he may need to consult unless he can obtain copies from a library. This is true especially of periodical literature. It would be virtually impossible for a person engaged in research to subscribe to all the periodicals which from time to time may touch upon his field of interest, and even the libraries where he lives may be unable to furnish the necessary material. Nor can libraries be expected to meet the needs of any number of researchers by loan of the copies in their collections. It is invaluable to a researcher to be able to obtain from a central or specialized library photocopies of the various articles he needs for reference and study.
>
> However, much of the materials needed for scholarship and research is of recent date and is under copyright, and the question arises whether the making and furnishing of photocopies of copyrighted material without the permission of the copyright owner is a violation of his exclusive right to copy secured by section 1(a) of the copyright law. It is the purpose of this study to examine this question and to consider possibilities for its solution.[17]

The study discusses the 1937 "Gentlemen's Agreement" between the Joint Committee on Materials for Research of the American Council of Learned Societies and the Social Science Research Council and the National Association of Book Publishers. The most interesting part of the agreement states as follows:

> The statutes make no specific provision for a right of a research worker to make copies by hand or by typescript for his research notes, but a student has always been free to "copy" by hand; and mechanical reproductions from copyright material are presumably intended to take the place of hand transcriptions, and to be governed by the same principles governing hand transcription.[18]

Varmer made the point in 1959 as many have made it since, that the right of a scholar to make a hand transcription does not extend to photo-mechanical devices and was probably not contested because it created no practical /economic/ problem. He points out very clearly that the Gentlemen's Agreement "is without legal force" and also that "one of the parties to the so-called agreement, the National Association of Book Publishers, has since (1959) ceased to exist. The book publishers are now organized in the American Book Publishers Council. Furthermore, the periodical publishers, who publish most of the scientific and technical material of interest to researchers, were not generally members of that Association, and even many book publishers were not members."[19]

Varmer also remarked prophetically in 1961, "but reproduction for private use takes on different dimensions when made by modern photocopying devices capable of reproducing any volume of material in any number of copies. The competition created by extensive photocopying is unfair not only to copyright owners but may be harmful to scholarship and research by diminishing the marketing possibilities of the journals without which the copies could not be made."[20]

In 1959 and once again in 1960 and during subsequent years, CICP tried to make Government agencies, professional societies, publishers and other groups involved in and affected by information systems aware of the serious nature and the almost inextricable situation our national scientific and technical information systems were headed for by refusing to face up to the copyright dilemma. (Appropriate documents are attached as Appendix B.)

In 1962, the National Science Foundation contracted for a study that would objectively ascertain the nature of certain types of documentation practices in reprography: "In conclusion, our survey reports that economic damage does not exist in substance. It does exist in special circumstances; but in relation to the total picture, we do not consider it a major problem. Based on those findings, we feel that proponents of systems designed to remedy economic damage would do well to take another look at their proposals."[21]

The above report was criticized as "outdated the day it was released, by the fast-changing situation."

In 1963, American University's Center for Technology and Administration held a symposium on "reprography and copyright law." The speakers recapitalated and projected almost all of the points then current on the problem. Lacking was the viewpoint of the non-profit scientific publisher and any extensive consideration of the potential impact of computer-directed facsimile interlibrary networks.[22]

Since then the most significant consideration of copyright and information systems has been by the House and Senate Subcommittees on Patents, Trademarks and Copyrights of the Committees on the Judiciary. The committee hearings managed to bring to more public attention the fact that science, technology and education did not have a single position on how copyright should be treated by the professions; indeed much of the testimony, such as it was, reads more like trade association testimony than the reasoned words of professional men.[23]

Despite the specific attempts to focus a spotlight on possibly the most serious phase of the copyright dilemma--the unrestricted use of the copyrighted material of professional societies by scientific, technical and education information transfer systems--the matter was hardly touched upon during the House and Senate hearings on H.R. 2512 and S. 597. What seemed to be lacking was any clear realization that all of the testimony and argument for limiting or expanding the fair use concept missed the issue of the size of the problem, possibly because it was a matter of conjecture. On the other hand, the question can be asked that since copyright revision has been under consideration since at least 1960, why is it that there has been such a dearth of specific information about the nature and size of the problem? Almost every discussion, every brief, every argument about copyright and information transfer seems to deteriorate into arguments concerning the rights of the user under the fair use concept, the one concept which can provide no relief and certainty to either the copyright owner or the user of his material. It is absolutely clear that there is no affirmative authority that can be found in the decisions of the Supreme Court or lower courts, authoritative legal treatises or the proposed revision bill, which condones the kind of practices now going on in all kinds of libraries and information centers. (See Chapter 3 - Fair Use.)

The House of Representatives passed H.R. 2512, the Copyright Revision Bill, on April 11, 1967.

Attempting to fill a void in the testimony taken by the House and Senate Subcommittees on H.R. 2512, S.597 and in the COSATI report, "Recommendations for National Document Handling Systems in Science and Technology," the executive branch of the Government convened an Ad Hoc Task Group on Legal Aspects Involved in National Information Systems. The report calls attention to the copyright problem but does not contribute further to the subject. It is apparent that science agencies of the Government, while properly concerning themselves with the information transfer process, have on the whole ignored or been unable to resolve the problem of copyright as it affects the economic well-being of science publishing, both non-profit and for profit.[24,25]

To ask only if science publishing is or is not damaged is once again sighting too low. The main questions are: if they are being damaged, how severe is that damage? When and to what extent will such damage curtail certain kinds of publication? Or when and to what extent will the publication managers resort to the courts to reiterate and enforce their rights? The result of such action could inflict very great harm on the whole information transfer system.

NOTES

Chapter 1

1. "The Copyright Law as it Relates to National Information Systems and National Programs," a Study by the Ad Hoc Task Group on Legal Aspects Involved in National Information Systems, Committee on Scientific and Technical Information Systems, Committee on Scientific and Technical Information, Federal Council for Science and Technology, July 1967, p. 6.

2. "Recommendations for National Document Handling Systems in Science and Technology," System Development Corporation, September, 1965. Prepared for COSATI Task Force.

3. "The Copyright Law as it Relates to National Information Systems and National Programs." (Note 1 above.)

4. See for example, the series published by the Office of Scientific Information Service, National Science Foundation: Current Research and Development in Scientific Documentation (Nos. 1-14, 1957-1966). No. 14: NSF-66-17; Annual Review of Information Science, C. Cuadra, ed., American Documentation Institute, J. Wiley, publisher, Vol. 1 (1966), Vol. 2 (1967); and Documentation Abstracts, Documentation Abstracts, Inc., since 1966.

5. and 6. Hearings before Subcommittee No. 3 of the Committee on the Judiciary, House of Representatives, Eighty-ninth Congress, First Session, on H.R. 4347; Hearings before the Subcommittee on Patents, Trademarks, and Copyrights of the Committee on the Judiciary, United States Senate, 90th Congress, 1st Session (4 parts).

7. Petre, David C., "Statutory Copyright Protection for Books and Magazines Against Machine Copying," Notre Dame Lawyer, Vol. XXXIX, No. 2, February 1964.

8. "First Annual Report by CICP Study Group," Committee to Investigate Copyright Problems Affecting Communication in Science and Education, May 10, 1960, reprinted with addenda December 13, 1961, Bulletin of the Copyright Society of the U.S.A., Vol. 10, No. 1, October 1962.

9. "The Copyright Law as it Relates to National Information Systems and National Programs." (See Note 1 above.)

10. Hattery, Lowell H. and Bush, George P., eds., Reprography and Copyright Law, 1964.

11. Bulletin of the Copyright Society of the U.S.A., Vol. 10 No. 1, October 1962.

12. and 13. Hearings, House of Representatives and Senate (Notes 4 and 5 above).

14. Fisher, Arthur, "Privilege of Using Public and Private Manuscripts in the Production of Art," Conference on the Arts, Publishing, and the Law, Conference Series No. 10, May 1952.

15. Sophar, Gerald J., "Copyright Stifles the Dissemination of Scientific Information" (unpublished paper), September 1958.

16. Chemical and Engineering News is published by the American Chemical Society.

17. Study No. 15, May 1959, prepared for the Senate Subcommittee on Patents, Trademarks and Copyrights of the Committee on the Judiciary.

18. Petre, David C., op cit., p. 168, note 79.

19. Ibid.

20. Hattery, Lowell H. and Bush, George P., op. cit., p. 156.

21. George Fry and Associates, 1962. Survey of Copyrighted Material Reproduction Practices in Scientific and Technical Fields, Chicago, 88 leaves, mimeographed. Study prepared for National Science Foundation. Implications of the Copyright Law on the dissemination of Scientific and technical information. (See entry under Koepke, J.C.)

22. Hattery, Lowell H. and Bush, George P., op. cit.

23. Hearings, House of Representatives and Senate (Notes 4 and 5 above).

24. and 25. "The Copyright Law as it Relates to National Information Systems and National Programs," and "Recommendations for National Document Handling Systems in Science and Technology."

Chapter 2

Background of This Study

In 1960 CICP completed a study simply titled, "First Annual Report." Its purpose was to isolate and describe what was considered to be an emerging problem of wholesale violation of copyright law caused by the rapidly developing technologies of duplication and information transfer, more generally described then as information storage, retrieval and dissemination. In practice, the successful application of any of these technologies, dedicated as they were to speed of access, completeness of response to a search and rapid transmission of information, would be thwarted by the copyright law to the extent that the law would be observed. Or should the law not be observed--as has become the case--the owners of copyright, the Register's office and the Congress would have to re-evaluate the meaning of a copyright, which in the last analysis is a lawful means to encourage creativity, or simply work, by assuring the author or publisher the opportunity to competitively market his product.

Copyright is not a selective legal concept applicable to a limited range of subject matter. Regardless, the Study Group confined its investigations to what appeared to its investigators to be areas of more immediate conflict and consequence: scientific, technological and educational information.

The problem was succinctly described with the following words:

> It is important to see that the conflict is not between [science] publishers, on the one hand, and scientists on the other. It is an internal conflict, between the scientist-publisher or his agent who is supplying the scientist-user with publications. On the surface they are struggling for the same things. The scientist-publisher struggles to retain his grip on revenue through copyright. The scientist-user struggles for freedom to create and teach. With his advancing techniques he is slowly breaking the grip of the publisher. Neither is the gainer, for both serve science.[1]

The report analyzed a number of possible solutions to the hypothetical problem: very large infringement of copyrighted scientific, technological and educational works on a single or relatively small multiple copying basis.

Consideration was also given to the thought that the demands of science, technology and education, coupled with the potential capabilities of the new techniques then being investigated or developed, might cause a substantial modification or change in the law. It was concluded that this would not occur. Regardless of the demands of science, technology and education, copyright is a legal principle developed to support the economic needs and reasonable expectations of an author and to protect the peculiar vulnerability of writing from piracy and improper use. As the right to legislate in this area is specifically authorized, it might be said, encouraged, by the Constitution, "To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to the respective Writings and Discoveries," it was reasonable to conlcude that the courts and the Congress would tend to strengthen the equity position of the copyright owner, rather than weaken it.[2]

Judge Herland's decision (extensively discussed in the chapter of this report entitled "Fair Use: What is the Law?") in the United Artists Television, Inc. vs. Fortnightly Corp. case, and a comparison of the Copyright Revision Bill with the current copyright law supports these earlier conclusions.[3,4,5]

Thus the Study Group concluded that the new media and devices for document duplication and information transfer would continue to improve and become widely accepted, and that it was impossible for any system of contracts for access, permissions and payments for the making of single copies to operate efficiently and economically except through a clearance or switching system, preferably voluntary and controlled by the user and the publisher.

Two hypothecations on which the study was based could not be defended at that time: (1) that the user would not obey the law and (2) that the amount of infringement would become very large within a few years.

Time has taken these premises out of the hypothetical class into the factual class. Much of this report seven years later is concerned with data that measures the Study Group's hypotheses.

NOTES

Chapter 2

1. "First Annual Report by CICP Study Group," Committee to Investigate Copyright Problems Affecting Communication in Science and Education, May 10, 1960, reprinted with addenda December 13, 1961, Bulletin of the Copyright Society of the U.S.A., Vol. 10, No. 1, October 1962.

2. Article I, Section 8, U.S. Constitution.

3. United Artists Television Inc. vs. Fortnightly Corp., 255 F. Supp. 177 (S.D. N.Y. 1966).

4. H.R. 2512/S. 597.

5. Title 17, U.S. Code.

Chapter 3

Fair Use: What is the Law?

Title 17 of the U.S. Code is the Copyright Law of the United States. It begins where common law copyright ends. Upon publication of a work, the work passes into the public domain or the author acquires all of the rights enumerated in the statute by complying with the formal requirements of Title 17.[1] Once the owner has acquired a copyright he has the statutory right to print, reprint, publish, copy and vend (see Figure 1 for complete list of rights); to translate or make any other version; for a period of 28 years, which may be renewed for another 28 years prior to the expiration of the first period.[2] Thus the copyright law says the rights of the copyright owner are absolute.

Custom and the courts temper all rights until the Congress chooses to rewrite the law. But custom does not dictate the standards of reasonableness.[3] In the absence of any conflict, court decisions are binding if an analogy can be established between any new situation and a prior situation. And as fair use is a court-developed concept, the understanding of it and the interpretation of it must be based almost solely on analogy. The analogy of "cases in point" (similarity of facts and law) presents no problem but also almost never occurs; analogous situations applicable either as to facts or law, but not both, is one area of our present problem.

Fair use started as a custom to which by and large copyright owners did not and do not object. Simply put, the type of fair use copying done by hand by the scholars in the not-too-distant past was self-limiting and the only real concern of the copyright owner was improper quotation. After all, much of scholarly writing, except for observation or laboratory experimentation, is a judicious compilation and review of the prior work of others. It is necessary to scholarship and to be commended. Certainly no harm is done by this practice to the owner of a copyright, except possibly to his ego.

Infringement of copyright today is very large in science, technology and education. This will be substantiated in this report. The fact that copying of the technical literature is

Figure 1. CHART OF POWERS AND RIGHTS OF ORIGINAL AUTHOR UNDER THE COPYRIGHT LAW OF THE UNITED STATES

The idea is conceived but is not subject to copyright	It is then converted by the effort of the author to become	An original work of authorship graphically or textually expressed	It is then conveyed, or printed and disseminated If printed and disseminated it is considered to be PUBLISHED and is conveyed to transferee by sale or gift	
			Without conforming to provisions of Title 17, U.S. Code	Conforming to provisions of Title 17, U.S. Code - Copyrights
COMMON LAW COPYRIGHT	None	Resides in Author. Assumption is that the work "owes its origin" to the "author"	Loss of all Rights. Equivalent of Dedication	Common Law Rights Relinquished
Exclusive Rights of Owner	None	Author is /able/ to prevent copying, publication or use of unpublished work without consent, and to obtain damages therefor (U.S. Code, Title 17, Sec. 2) * * * Author may 1. Read it aloud in public 2. Pass it around for criticism 3. Right to first publication 4. Choice of publisher 5. Time of publishing 6. Non-publishing 7. Licensing or 8. Sell only certain uses of manuscript	None	Ceases. Not applicable
COPYRIGHT LAW OF 1909, U.S. CODE TITLE 17	None	Not applicable	Loss of all Rights. Equivalent of Dedication	Acquires exclusive rights on specific work by act of publication and conformance with U.S. Code, Title 17
Exclusive Rights of Owner		Not applicable	None	Author is Able to prevent copying, publication or use of work, except for "fair use" or as court requirements * * * * Exclusive rights reserved to author: if it is a 'literary' work: 1. To print, reprint, publish, copy, and sell it 2. To translate it or make any other version of it 3. To dramatize it, or make any other version of it 4. To deliver, authorize the delivery of, read, or present it in public for profit 5. To make or have made any transcript or record of it by which, in whole or in part, it may in any manner or by any method, be exhibited, delivered, presented produced or reproduced 6. To play or perform it in public for profit, and to exhibit, represent, produce, or reproduce it in any manner or by any method whatsoever. If it is a dramatic work, in addition to 1, 2, 4, 5, and 6 above: 7. To convert it into a novel or other non-dramatic work 8. To perform or represent it publicly 9. To sell any manuscript or record of it if it is unpublished 10. To arrange or adapt it 11. To perform it publicly for profit 12. To make any arrangement or setting of it, or its melody, in any system of notation or any form of record from which it can be read or reproduced If it is a model or design for a work of art, in addition to 1 and 5: 13. To complete, execute and finish it

still essentially a one-at-a-time operation has no bearing on the matter. As one commentator has remarked, "Babies are still born one at a time, but the world is rapidly being overpopulated."

There are no court decisions at the circuit, appelate or Supreme Court levels to date which condone most of the copying practices of academic, industrial, governmental or general libraries. The only reliable guidelines as to how far the user may lawfully go in reproducing copyrighted material in support of an information system without express authorization from the copyright owner are to be found in Section 107 of H.R. 2512 and the supporting committee report passed by the House in the first session of the 90th Congress (see Figure 2).[4] The source of the four guidelines are the criteria used by the courts in building the fair use concept. Therefore they offer guidance to the uncertain user, even prior to passage of a revision bill.

It is interesting to note that there is no mention made, and no exemption specifically provided for, against the possibility of infringing because only a single copy was made, nor is it necessarily an infringement because multiple copies have been made.

A word of caution is in order before we turn back to the law as it is and not as it may be. Section 107 of H.R. 2512 will make fair use a matter of statute, but as Committee Report No. 2237 (H.R. 2512) states:[5,6]

> Although the courts have considered and ruled upon the fair use doctrine over and over again, no real definition of the concept has ever emerged. Indeed, since the doctrine is an equitable rule of reason, no generally applicable definition is possible, and each case raising the question must be decided on its own facts. On the other hand, the courts have evolved a set of criteria which, though in no sense definitive or determinative, provide some gage for balancing the equities. These criteria have been stated in various ways, but essentially they can all be reduced to the four standards which were stated in the 1964 bill and have been adopted again in the committee's amendment of section 107:. . . .

It is completely predictable that these guidelines, useful as they may be, cannot do much to solve the dilemma. They represent the summation of the responses of the courts to generally minimum situations and patently harmless infringement. If it should be the will of Congress that copying, transmission, facsimile reproduction and non-ephemeral display of copyrighted works be made lawful as a matter of national policy, it cannot and should not

I. Transferees' Rights in Legally Acquired Copy of Copyrighted Work	Lawful or unlawful depending on whether method, concept and purpose are within "fair use" guidelines or not			
	Lawful	Probably Lawful	Probably Unlawful	Unlawful
1. To read or hear	x			
2. To destroy	x			
3. To resell or transfer as a gift	x			
4. To lend	x			
5. To quote from	x			
6. To review	x			
7. To criticize	x			
8. To extract concepts from and reuse in any manner	x			
9. To make copies of limited amounts of text for convenience and for purposes such as "criticism, comment, news reporting, teaching, scholarship and research"	x			
10. To reference	x			
11. To index	x			
12. To abstract	x			
13. To rewrite concepts and ideas	x			

Figure 2. Comparative Chart of Capability to Use, Copy and Transmit vs. Legal Rights of Transferee of Published Copy of Textual or Graphic Copyrighted Work Acquired by Sale or Gift

II. Transferee's Capability to Copy, Store, Reconstitute, Retrieve, Transform (Derivative Work) and Transmit Message from Lawfully Acquired Copy of Copyrighted Work NOTE: The term "text" used below refers to textual or graphic message	Lawful or unlawful depending on whether method, concept and purpose are within "fair use" guidelines or not			
	Lawful	Probably Lawful	Probably Unlawful	Unlawful
a. Reprography & Duplication 1. To economically make single copies of full text or part of a text by reprographic means at a convenient speed	Self-contained, non copyrighted material, bound in a copyrighted work. For example: law cases, but not headnotes; government statistics, but not interpretation	Part of chapter in book or part of article in publication	Chapter of book or single article in periodical	Full text of book or issue of periodical
2. To economically make multiple copies of full text or part of a text by reprographic methods at a convenient speed	"			x
3. To economically prepare master from original full text or part of a text for high speed multiple copy duplication	"			x
4. To prepare microfilm master of full text or part of a text for single copy or multiple copy duplication as roll film or microfiche, but prior to making of duplicates	"	x		
5. To duplicate all kinds of magnetic tapes	"			x

II. Transferee's Capability (continued)	Lawful or unlawful depending on whether method, concept and purpose are within "fair use" guidelines or not			
	Lawful	Probably Lawful	Probably Unlawful	Unlawful
6. To duplicate motion pictures or film strips				x
b. Indexing, Conversion, Storage Retrieval and Reconstitution 7. To electronically scan and digitize text for computer storage		x		
8. To keypunch and digitize text for computer storage		x		
9. To duplicate tape store of digitized texts				x
10. To automatically select text through computer-stored index, retrieve and reconstitute in hard copy printout or in microfilm		on input	except for own experimental program	as a service
11. To automatically index and abstract the text	x			
12. To automatically compress or extract the text (derivative)			x	
13. To display digitized texts or parts of text on single or multiple CRT screens Selection controlled by operator (a) in classroom or gov't office		x		
(b) other activity			x	
Selection controlled by user				x

II. Transferee's Capability (continued)	Lawful or unlawful depending on whether method, concept and purpose are within "fair use" guidelines or not Lawful	Probably Lawful	Probably Unlawful	Unlawful
14. To display manually or automatically selected microfilm on single or multiple screens in classroom or gov't office		x		
Other activity			x	
15. To transmit the selected texts short or long distances by leased or private wire or by microwave and make facsimile reproductions at user station based on user inquiry				x
16. To repeat any of these processes or combinations of them interminably				x

hide this decision behind fair use guidelines, for by so doing, it is simply once again returning the problem to the courts.

> "Fair use" is at best inconclusive. If some clearance system is not established, it will serve as a temporary guideline to the user and eventually to the courts. It does not solve the real problems, which are two: the increasing need of education, science, government, and business for multiple copies of documents; and the fact that since the copyright owner's compensation is the total return from the use of his work--the loss through "fair use" of his work cannot be measured in terms of any individual use, but only in terms of the total use and total copying.
>
> Therefore, we felt that the present provision for fair use, while making possible some types of research use of copyrighted material in computer and microfilm storage devices, cannot solve the "computer problem," let alone the direct copying problem. At best, it serves as a temporary safety valve, until some clearinghouse system is established. At that time, the concept of fair use should lose its importance and die off as some form of vestigial tail.[7]

The connundrum of fair use is that the wider its area of application, the less fair and the less useful it becomes as a valid legal doctrine, and the more likely it becomes that the copier, researcher, educator and general user of copyrighted material, whether individual or institution, is an infringer.

Though this report is not concerned with the nature and functions of a modern library or information resource center, it is necessary to recall that the industrial, academic and governmental library has forsaken its former role as a passive warehouse of knowledge and information. In many cases the information resource center and the library have completely merged as to concept, in others they are under one roof and one administration. The library acting as an information resource center has become a republisher. Examples abound: the National Library of Medicine, the Engineering Societies Library, the John Crerar Library and all industrial libraries. It is unfortunate and possibly unpleasant that the question of infringement must be measured against these advances.

To fully understand fair use, it is necessary to accept the fact that copyright exists for the public good. The continuation of authorship as a private activity seems to be a worthwhile objective of American policy. So is the right of the user to make effective use of the work an equally desirable end. Any attempt to make a general determination as to which is more important vitiates Article I, Section 8 of the Constitution.

From this one may reasonably conclude that it is fair use to copy from a copyrighted work if there is no element of damage to the copyright owner in so doing. While the nature of the infringing institution has no bearing on whether or not the copyright owner has been damaged, it may well be mitigating. No cases exist as yet involving alleged infringement by libraries of copyrighted materials. There may be a number of reasons for this. There is the natural reluctance of the publisher to move against such august and respected institutions. It is also assumed--although not validly--that only scholars use libraries. Also there was always the strong possibility in the not-too-recent past that the doctrine of de minimum non curat lex (the law is not concerned with trifles) would be raised as a defense if it could be shown that little if any damage was done to the copyright owner. Still it cannot be assumed that the alleged infringer is safe from the issuance of an injunction because profit is not his goal. "Even proof of actual damage is not necessary, if infringement appears and damage may probably follow from its continuance."[8]

The prevailing attitude by legal scholars to the question of fair use has been that each case must be decided on its merits. If this is so, a number of hard questions must be asked:

- Is full-text copying of copyrighted periodical articles by an industrial library an infringement? This kind of activity is extensive and highly organized.

- Is serving of an industrial organization by a non-profit library supported by industrial organizations an infringement?

- Is extensive and highly organized copying of copyrighted works by academic, public or government libraries and information centers for academic and scientific purposes an infringement, or are these institutions in a most favored position because of their nature?

- Probably the most important question is: will the courts continue to examine even the most minimal of alleged infringements only on a case-by-case basis, or will they be persuaded to evaluate a single case as a part of a whole planned pattern of non-ending reproduction by the user?

Tables VIII, IXa and IXb of the CICP Survey do not give a true national picture of the amount and kind of copying done by libraries and information centers. Still they represent a cross section of the 7,000 university and college libraries, special libraries, law libraries and medical libraries in the country.[9]

According to Characteristics of Professional Scientific Journals, 1962, 75% of the periodical literature and 95% of the texts are copyrighted. These are data that can hardly be ignored by any future court considering "the effect of the use upon the potential market for or value of the copyrighted work."[10]

Fair use may still be valid doctrine for classical scholarship; it may prove to be unreliable as a legal base for the operation of modern information service centers or networks using copyrighted material.

The evidence seems clear that fair use is no longer a safety valve but a conduit. It is neither practical nor wise that it should be the legal foundation upon which the most efficient library and information systems are built.

The survey responses seem to indicate clearly that the librarian either firmly believes, chooses to believe, or chooses to take the position that the making of a single copy of any part of a copyrighted work is fair use.

The Development of the Library Position on Photocopying

Representatives of the American Library Association (ALA) met in 1935 with the Board of Directors of the National Association of Book Publishers (NABP), which became in 1938 the Book Publishers Bureau, Inc., to produce a statement of understanding regarding acceptable library practices in the use of photography for reproduction of copyrighted material. It seems that the "Gentlemen's Agreement," as it was called, produced the basic concept of "a single photographic reproduction or reduction of a part thereto to a scholar representing in writing that he desires such reproduction in lieu of loan of such publication or in place of manual transcription and solely for the purpose of research. . . ."[11]

Despite the "Agreement," the courts have ruled that a photographic copy of part of a copyrighted work is a technical infringement at least. "In order to constitute an infringement of the copyright of a book it is not necessary that the whole or even a large portion of the book shall have been copied. It is sufficient if a material and substantial part shall have been copied, even though it be a small part of the whole."[12]

Another argument consistently advanced is that a copy was not made for the purpose of profit, or for the purpose of commercial gain.[13] This is no excuse. While copying for a profit--vending--would clearly be an infringement, it does not follow that infringement did not occur because no profit was made through the act. The copyright owner's rights are not limited to vending--a synonym for selling--and presumably making a profit. He also has the right to print, reprint, publish and copy, rights which do not necessarily include any financial remuneration or commercial purpose. Most non-industrial libraries which provide copying services require the user of the service to sign a statement similar to the following:

> "The reproductions are made as a service to the applicant and are not for sale. The fee charged for the service is established on a basis of no profit to the library."

The above and similar statements can be attributed to the report of the Joint Libraries Committee on Fair Use in Photocopying, which concluded that:

(1) The making of a single copy by a library is a direct and natural extension of traditional library service.

(2) Such service, employing modern copying methods, has become essential.

(3) The present demand can be satisfied without inflicting measurable damage on publishers and copyright owners.

(4) Improved copying processes will not materially affect the demand for single-copy library duplication for research purposes.[14]

The fault with this set of principles is that it may be considered self-serving, and does not relate to today's conditions.

Copyright Law vs. National Document Handling Systems

Our request for support from the U.S. Office of Education called attention to the inherent conflict between the law of copyright and the concept of "National Document Handling Systems in Science and Technology."[15]

The main effort here will be to determine how many planned information programs have been aborted within the last seven years; how many have been curtailed and the extent of the curtailment due to an acceptance of the copyright limitation on unlimited dissemination. Also, how many systems are operating without regard to the law and the justifications given for ignoring the law.

An equal effort will be made to determine the extent to which certain "Basic Propositions" of the Committee on Scientific and Technical Information (COSATI) clash with copyright law.[16]

Proposition (1) of Recommendations for National Documents Handling Systems in Science and Technology states: "The Federal Government has the responsibility to assure that there exists within the United States at least one accessible copy of each significant publication of the worldwide scientific and technical literature."[17]

The discussion of this "basic proposition" contains the following paragraph: "'One accessible copy' also needs elaboration. It says that there must be at least one copy of each document which can be reached in an effective manner by some yet-to-be-defined class of users. The idea of accessibility does not mean that there exists one copy which can be obtained in an emergency or under a court order. Rather it implies that a copy or a reproduction will be available in a reasonable time to any qualified user."[18]

Further discussion of this subsection of the Report definitely includes all copyrighted works: serials, textbooks, monographs, etc.

It is difficult to understand why the whole matter of copyright received no more attention than one paragraph in the total report. Copyright is interwoven into almost every aspect of the total Recommendations for National Document Handling Systems.[19]

It makes little difference which, if any, of the recommended systems finally evolves, notice will have to be taken of copyright law. The Government and our society will have to give complete support to the law, or openly admit that it is abandoning it. The latter is highly unlikely.[20]

The Ad Hoc Task Group on Legal Aspects involved in National Information Systems in its recent report argues from the same paragraphs that:

> If copyright operates to impede or to prevent access to worldwide scientific and technical literature, then the Federal Government, using section 1498b of Title 28, may be the only instrument for providing material in the forms desired by the scientific and technical community.[21]

The implication of the above quotation is that the United States has the power to usurp the rights of the copyright owner in his material. To the contrary, Section 1498b of Title 28 provides the "exclusive remedial action" which a copyright owner may take against the United States:

> (b) Hereafter, whenever the copyright in any work protected under the copyright laws of the United States shall be infringed by the United States, by a corporation owned or controlled by the United States, or by a contractor, subcontractor, or any person, firm, or corporation acting for the Government and with the authorization or consent of the Government, the exclusive remedy of the owner of such copyright shall be by action against the United States in the Court of Claims for the recovery of his reasonable and entire compensation as damages for such infringement, including the minimum statutory damages as set forth in section 101(b) of title 17, United States Code.

The report continues with a statement of how Western European countries freely copy from U.S. periodicals and implies that the least we can do to our own copyright holder is the same. "Do unto our own what others do unto him."

And then it raises the specter of the Soviet challenge as the clinching reason for the Federal Government to join hands with all of the scientific and technical community to violate our own laws.

> The problem of copyright poses no obstacle for input, manipulation, or output of information for the Soviet Union which is developing a computer network. Soviet authorities neither pay for copyrighted material of foreign origin nor take the time to ask permission for incorporation of material into their system.[22]

In the first place, it seems absurd and improper for our state to use its sovereign power to retaliate against its own citizens as a reprisal against the acts of another state, not even bound to observe our law by bilateral or multilateral agreement.

The report also makes the following statement:

> A fee paid to the operator of the document collection is the test for determining the qualifications of the user. In discussing this point the *National Document Handling Systems in Science and Technology* report noted that: "The user should be willing to show that he is qualified to receive the document by expressing a willingness to pay a reasonable fee for the document. The fee should be as modest as possible to cover only a fraction of the overall cost of obtaining, processing, and copying documents, even though the cost of processing particular documents may be quite high. If the fee involved can be kept small enough to be met by serious users, the whole question of who is qualified probably does not need to be considered (except for matters of military classification)."[23]

The above statement is a recast, of course, of a similar statement in the Weinberg Report:

> We place special stress upon what seems an obvious point because, in the early days of science, the problem of communication could be managed casually. Each individual scientist could work out his own private communication system, suitable to his own needs, and, since the requirements were relatively small, the whole matter could be treated rather incidentally. But with the growth of science a casual attitude toward communication can lead only to insufficient communication. *Scientists individually, technical societies, agencies supporting research and development, will have to recognize that adequate communication no longer comes free.* /Emphasis added/. Communication cannot be viewed merely as librarians' work; that is, as not really part of science. An appreciable and increasing fraction of science's resources, including deeply motivated technical men as well as money, will inevitably have to go into handling the information that science creates.[24]

The key question is: must not the user pay and should he not be expected to pay, the owner of the copyrighted material in the system for copies made of the owner's material with the same "expression of willingness" as he is expected to pay for a fair or bearable share of the processing, that is, the use of copying devices, computers, telephone lines, et cetera?

Is Fair Use a Sufficient Excuse?

If there is anything absolute about fair use, it is that it is a concept favoring the user of the copyrighted work and not the owner. It limits the rights of the copyright owner. It has served as a reasonable safety valve to the almost paralytic effect that copyright might have placed on the sensible use and exploitation of published works, if the law had been interpreted as an absolute doctrine. Even the copyright owner recognizes this.

What then is the problem? Why has a rather easily understood doctrine which has been reasonably observed by the user in the past and largely accepted by the copyright owner become one of the major road blocks to the final passage of the Copyright Revision Bill? More important, why is it that it will continue to be a problem even if the Revision Bill becomes law?

The essence of the problem is that modern intra-library and inter-library loan systems and modern information clearinghouses--to the extent that they make use of copyrighted material--would not exist if the copyright law, including the court-developed concept of fair use, were adhered to. These systems depend on the delusion that it is lawful to reproduce from copyrighted material as long as only one copy of a text is made at a time, though there is nothing in Title 17 of the U.S. Code or any court decision that supports this belief.

The simple fact is that the user or his agents, the librarians and information center managers, have made their own judgments as to what is lawful and what is not. The copyright owner has not been a participant in these decisions, nor have the courts.

CICP has repeatedly warned that this approach--a non-violent form of civil disobedience--must produce a disastrous ending for many information networks, unless the Congress chooses to pass a copyright law which will fully accommodate the capabilities and practices of the commercial and non-profit information networks, as well as the government-controlled ones. So far there is no indication that it intends to do so.

An ominous warning as to what may happen to an infringer of any kind of copyrighted material is to be found in the May 23, 1966 landmark decision by Judge Herlands in United Artists Television, Inc., vs. Fortnightly Corporation, 255 F. Supp. 177 (S.D. N.Y. 1966). Judge Herlands' decision was upheld on appeal by the 2nd Circuit on May 22, 1967. It has since been certified to the Supreme Court and the Court has taken certiorari.

While a number of issues were carefully examined, reasoned and settled, the one that appears to have the closest analogy to the current practices of libraries and information networks and which need not be examined within the context of the case is the Herlands' statement that it is the function of the courts to prevent "a new means of accomplishing an old and proscribed end from diluting or decreasing the scope of the monopoly Congress has granted to the copyright proprietor." He also "notes in passing that, despite the fact that exemptions from inclusion within the copyright proprietor's performance monopoly may arguably be desirable in certain instances purely on policy grounds, such desiderata are for Congress and not the courts."

Sixty-six libraries were surveyed to develop a data base for this report. They included 12 U.S. Government, 20 academic, 5 municipal or state government, 13 industrial and corporate, 6 non-profit research and 10 professional society or trade association libraries.[25] In response to the question, "How do you relate your copying practices with present or projected copyright law?" 64 librarians judged themselves in compliance with "fair use," one felt the library occasionally violated the law and one did not respond clearly.[26]

In response to the question, "[What are the] limits [imposed] on the number of multiple copies of the same item [for the same customer]?" 49 of the 66 libraries stated that they never made multiple copies; two, mostly never; two, seldom ever; twelve had no policy; and one did not respond.[27]

Question 21 determined the "[Types of] limits imposed on unrestricted single copy reproduction." The response showed that 45 of the libraries responding placed no limits on single copying and 24 limited single copy reproduction for a variety of administrative reasons: numerical, budgetary, availability of machines and availability of staff. Only one library of those surveyed, the Library of Congress, made no distinction between single and multiple copies. It's Photoduplication Service will not make any copies of copyrighted material, single or multiple, without the signed authorization of the copyright owner.*

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*Copyright material will ordinarily not be copied without signed authorization of the copyright owner. Exceptions to this rule may be made in particular cases, all responsibility for the use made of photoduplicates is assumed by applicant. - From: Library of Congress, Photoduplication Service Informational Brochure 25-15e (10/65).

NOTES

Chapter 3

1. Title 17, U.S. Code.

2. It will be a rare instance where the length of copyright under the Act of 1909 or under the proposed Revision Bill (life plus 50 years) will be meaningful to science, technology and education.

3. The T.J. Hooper, 60 F. 2nd 737 (2nd Cir. 1932) *cert. den.* 287 U.S. 662 (1932).

4. H.R. 2512.

5. *Ibid*.

6. Report No. 2237, from the Committee on the Judiciary, House of Representatives, to accompany H.R. 4347, 89th Congress, 2d Session.

7. Hearings before the Subcommittee on Patents, Trademarks, and Copyrights of the Committee on the Judiciary, United States Senate, Ninetieth Congress, First Session, on S. 597, p. 115.

8. McMillan Company vs. King, 223 Fed. 862 (D. Mass. 1914).

9. Appendix C to this Report

10. Campbell, David T.H., *et al.*, *Characteristics of Professional Scientific Journals, 1962*. U.S. Department of Commerce, April 30, 1964.

11. Donnelly & Sons Company vs. Heber. 43 F. Supp. 456 (E.D. N.Y. 1942). Holt to the use of Felderman vs. Liggett & Myers Tobacco. 23 F. Supp., 302, 303 (E.D. Pa. 1938).

12. Loewe, Inc., vs. Columbia Broadcasting System. 131 F. Supp. 165, 174-175 (S.D. Calif. 1955).

13. *Ibid.*

14. Joint Libraries Committee on Fair Use in Photocopying, 1961. "Fair Use in Photocopying: Report on Single Copies." *American Libraries Association Bulletin* 55, 572, June 1961.

15. *Recommendations for National Document Handling Systems in Science and Technology*. System Development Corporation, September 1965. Prepared for COSATI Task Force.

16. Unpublished Proposal, "The Determination of Legal Facts and Economic Guideposts with Respect to the Dissemination of Scientific and Educational Information as It is Affected by Copyright--A Status Report," Committee to Investigate Copyright Problems Affecting Communication in Science and Education, transmitted February 8, 1967.

17. *Recommendations for National Document Handling Systems in Science and Technology*, System Development Corporation, September 1965, 4-11. Prepared for COSATI Task Force.

18. *Ibid.*

19. The Copyright Law as it Relates to National Information Systems and National Programs," a Study by the Ad Hoc Task Group on Legal Aspects involved in National Information Systems, Committee on Scientific and Technical Information, Federal Council for Science and Technology, July 1967, pp. 34-37.

20. *Ibid.*, p. 36.

21. *Ibid.*,p. 35.

22. *Ibid.*,p. 36.

23. *Ibid.*, p. 34.

24. "Science, Government, and Information: The Responsibilities of the Technical Community and the Government in the Transfer of Information." A Report of the President's Science Advisory Committee, January 10, 1963.

25. Appendix C to this Report, Table I.

26. *Ibid.*, Table XXXVI.

27. *Ibid.*, Table XXII.

Chapter 4

Methods

Methods: in General

The new data collected and analyzed in this report were obtained in two distinct but related studies and are presented in two sections. The study embodied in the first section is a status report that analyzes the effectiveness of current copyright law as it relates to the information transfer process. The study reported in the second section is a quantitative study of copying of copyrighted material. Section III combines the conclusions of both sections.

Selection of Candidates for Study

The following description applies mainly but not exclusively to the study of Section I.

Personal interviews were arranged for with 66 key libraries. These were selected out of the following groups according to sponsorship:

1. U.S. Government
2. Academic
3. Municipal or state government
4. Non-profit research
5. Professional society or trade association

Some geographic distribution was required. Because of the limiting factors of available time and travel funds, the geographic areas selected were:

1. The Washington, D.C. and Baltimore areas
2. The New York City and New York State areas
3. The Chicago, Kansas City, Bloomington and Columbus areas
5. The Boston area
6. The Los Angeles and San Francisco areas.

Guidelines were then listed to assist the selection committee in choosing candidate libraries and information centers most useful in connection with the objectives of the study and within the limitations of sponsorship and geographical distribution.

The guidelines were:

1. Select candidates active as document or information service centers.
2. Maintain balance among discipline-oriented, task-oriented and general libraries or information centers.
3. Maintain balance between large and small centers.
4. Select candidates with managements likely to cooperate (based on past contacts and experience).

The selection committee consisted of four persons: Mr. Saul Herner and Mr. Melvin Weinstock of Herner & Company, and the principal and co-investigators. Potential candidates were evaluated by the committee against the guidelines and other constraints. Within these, the most important factor which determined final selection of libraries was the combined experience and knowledge of the committee about the nature and information transfer programs of candidate institutions. Particularly heavy reliance was placed on Herner & Company's experience as contractor to the Office of Science Information Services of the National Science Foundation in connection with publication of Non-conventional Scientific and Technical Information in Current Use.

However, the candidates for this survey were not limited to organizations which operate on "non-conventional" or "scientific and technical information systems." In the selection process use was made of the National Science Foundation's Specialized Science Information Services in the United States, the 23rd edition of the American Library Directory, Kruza's Directory of Special Libraries and Information Centers, the National Science Foundation's series Non-conventional Scientific and Technical Information Systems in Use, and the National Referral Center's Directory of Information Resources in the United States.

The 66 institutions cooperating in the first study have not been listed. They were promised anonymity because much of that study concerns opinions on copyright which might conceivably be of legal or administrative embarrassment to them. However, the group of six libraries discussed below (under Method: Section II, and in Section II, Chapter 5) provided only quantitative data. Their cooperation with CICP is acknowledged in the preface to this report.

Method: Section I

Query Preparation

The selection committee designed, reviewed and prepared the 66-library query checklist. First a list of twenty query topics was prepared (see Appendix C). Responses to five major questions were sought: the size of the problem; the kinds of material copied as to form and source; the economic, administrative and legal constraints which determine a library's actual copying practices in regard to copyrighted material; the librarians' or managements' interpretation of current and proposed copyright law; and the attitudes toward the idea of a copyright clearinghouse.

The query topics were expanded to 43 line questions, exclusive of identification data. Two prior forms were designed before the final query guide was approved. These were pretested by the interviewers at libraries and information centers in the Washington area. The final "Checklist of Query Topics" appears in Appendix C.

Interview Preparation

The checklist of twenty questions ("Checklist for Statistical Data") was selected from the checklist of query topics and mailed to the cooperating institutions several weeks prior to the scheduled interview. These were quantitative questions and it was felt that more accurate information could be obtained by providing the opportunity to the respondent for pre-examination of records for precise data or reasonable estimates.

The remaining 23 questions were not asked until the time of interview so that the responses could not be predetermined.

Interview-Survey Method

In addition to the directly solicited responses to the queries, the interviewers encouraged a dialogue with their respondents so that the interviewers might obtain more insight into the librarians' attitudes than could have been obtained from a direct response. Two of the interviews were conducted by the principal investigator, mainly to provide the background and understanding necessary to interpret the circumstancial evidence of the responses analyzed in Section I. The query topics of specific interest in the Section I analyses are: 20, 24, 25, 26, 27, 31-36, and 38-43. These are behavioral questions and were designed to determine the legal, philosophical, social or business reasons on which practice is based.

Whenever possible, supporting documents illustrative of the library's policy and procedures were obtained. Under the promise of anonymity, none are included in the appendix. Relevant verbal or textual sections of some of them are quoted in the analysis, but always without identification of the responding institutions.

Conduct of Interview Survey

Directors or their representatives in 59 of the 66 institutions were directly interviewed. This method was chosen because it was assumed from the testimony on H.R. 2512 and S. 597, as well as from previous hearings on copyright revision, that libraries and information centers did not differentiate to any marked degree between the copying of copyrighted and non-copyrighted material. This was also assumed in the six-library study, in which the participating libraries were asked to keep records of the copying of all materials, copyrighted and not copyrighted. The interview protocol was so designed that direct observation followed by analysis could be used to determine as far as possible the actual attitudes and practices of administrators of libraries and information centers in regard to copyrighted material.

Method: Section II

Section II describes mainly an intensive study of a sample of copying that CICP had initiated with six cooperating libraries in 1966, prior to the U.S. Office of Education support contract; but also describes some of the results obtained from the questionnaires to 66 libraries. Though not specifically funded by the support contract, the six-library study has been considered and treated as central to the purpose of the contract, and has from the first been incorporated in this report.

The chief differences between the six-library study and the 66-library study lie in the size of the "universe" (6 versus 66), the time-span of the study (one month versus one year), and the nature of the data (records of copying versus estimates-plus-records). The six libraries were selected on the same basis as the 66--for variety, representativeness and willingness to cooperate. The data consisted in complete records for one month of operation of all copying (copyrighted and not copyrighted) performed by the respective photoduplication services of each collaborating library.

Design of Forms for Data Transfer

The forms are described in the Instruction Sheet sent to the six collaborating libraries by CICP on February 5, 1967. See

Appendix D. The forms themselves are also shown in this appendix.

As mentioned in the May 4, 1967 interim report to the U.S. Office of Education, "these forms were designed to facilitate transfer of data from individual library copying records to uniform CICP records."

The data requested were designed primarily to study the distribution of publishers whose works were copied, the main forms of works copied (books, journals, other forms), the numbers of separate items (or titles) copied, the numbers of prints, the proportion of copyrighted versus uncopyrighted material, the time-distribution of copied copyrighted material, and the copying of journal articles in whole or in part. Only one class of data used below were not derived from these forms--the classification of publishers as non-profit and for profit.

Collection and Reduction of Data, Six-Library Study

The data were collected by experienced librarians under the supervision of the heads of each collaborating library. After collection on Forms 1000 they were transcribed to Summary Forms 1001A and 1001B. Both sets of data forms were transmitted to CICP.

During the summer and fall of 1967 the data were reduced and tabulated as shown in the Tables, Figures and discussion of Section II.

Reduction of Data, 66-Library Study

All data arising from the surveys and questionnaires of the 66-library study were reduced for analysis as follows: each library was assigned a code number (from 1 to 66). Each of the 43 questions in the survey questionnaire was analyzed into a quantitative or qualitative spectrum covering the range of replies. All data from the replies were classified according to these spectra and the results were recorded on uniterm cards. This preparatory analysis of data was performed by the sub-contractor, Herner & Company, who had also collected the data. The coordinate classification permitted the investigators to make arbitrary correlations, rapidly and easily. On the other hand, there was one disadvantage--namely, shifting the contact of the investigators one step further from the original data. This was not the case in the six-library study, for which the data were both reduced and analyzed by the same investigator. However, without this division of labor between the preliminary and final analyses of the data in the case of the 66-library study the investigators could not have completed their report anywhere as promptly as they have.

For the final analyses the investigators roughly divided the 43 questions into those most suitable for Section I of the analysis in Chapter 5, and those most suitably analyzed in Section II of the same chapter. Questions mainly analyzed in Section II are numbers 7-13, 15-18, 21-23, 26, 27 and 37. (This division was not rigidly observed by the investigators.)

The results of these analyses were merged as far as possible with the other observations in Section II of the analysis, and in concluding Section III of Chapter 5--Conclusions. It is anticipated that additional use will be made of these data and those of the six-library study either directly in other studies or in pinpointing problem areas requiring further investigation.

Chapter 5

Findings and Analysis

Analysis of Current Practices of Libraries and Information Centers and the Resulting Size of the Problem Due to these Practices

General Introduction

The following analysis evaluates the opinions of the librarian and practices of the library or its parent institution as it relates to the duplication of copyrighted material at these institutions. It examines the justification given for these opinions and practices by the librarian or the institution's management and evaluates whether current opinions and practices are static or changing. Some of the responses to the queries about opinions and practices are categorized and quantified. This has been done where it seemed to aid the interpretation of the responses. In a number of cases the particular language of the respondent has been quoted because it adds a value to the interpretation and analysis that simple categorization and counting cannot do.[1]

The specific data on the amount and kind of copying from periodicals and books are interesting in themselves. If copyright law did not exist, or if all of the copying were from non-copyrighted material, the data would serve as some measure of inter- and intralibrary loan activity and the relative interest of the user in journals and books according to age and discipline. They may even provide a clue as to relative effect on the user of current awareness versus retrospective searching programs. However, as copyright is very much in the picture, the data that have been gathered for this analysis are used to obtain guidance as to the magnitude and growth rate of the problem as a preliminary step in determining its actual size, the value of the material copied and its effect on the general economics of publishing.

For all practical purposes, copyright law as it relates to single or multiple copying from journals and books can only be enforced by the transferee (librarian, information center manager, etc.) who has legally acquired a copyrighted work by purchase or gift. The owner of a copyrighted work is powerless at this time to enforce his lawful right to "print, publish and vend" and therefore maximize his marketing effort, because a measure of control of his product has passed into the hands of the consumer (see Figures 1 and 2, Chapter 3).*

The transferee in turn has had the capability for some time to do almost anything he wished with his purchased volume, secure in the knowledge that his action is either lawful, free of detection if unlawful, or free from punishment if unlawful and detected. Finally, he knows that the more effective are his information dissemination and document transfer programs, the more will he be commended by his profession, management and clientele.

A scale-up of the two surveys estimates that about one billion pages of copyrighted material were made in 1965 on a one-at-a-time basis. It must be remembered that these measures are based on data obtained from controlled situations, where some records were available. No attempt was made to measure the copying done on coin-operated machines within and without the library, or to measure recopying by the user upon receipt of an inter-library or intra-library copy at the point of use for the purpose of further duplicating and distributing the document. For example, a single copy of an article about a new method of indexing integrated circuit devices may be obtained by the electronic component section of an organization through or from its library. In turn it may be duplicated in multiple copies at the user station or some intermediate processing station for general use within the section.

Another kind of copying not measured by the surveys is the kind done in non-library or non-information center situations. Every functional professional unit subscribes to a limited number of journals, monographs or reference works directly oriented to the unit's task. All of these units have access to copying devices and use them as needed.

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*At the heart of the problem, of course, is not just what is fair use but how much use of fair use makes it unfair use. The study of man can never be equated with the study of mankind. For the same reasons, an examination of how a scholar can fairly make use of a copyrighted work only provides clues for understanding the total effect of technology--as a means and as an objective--on copyright principle. It doesn't provide much help in defining the whole problem or suggesting a solution. Conversely, unless it and the user's attitudes and behavioral patterns in regard to fair use are understood, the larger economic question cannot be approached. Without the constant consideration of both together, it is not possible to determine where the public interest lies.

In summary, it can only be surmised that the "amateur" activity may well represent another large increment of copying. Section II, the section on the size of the problem, which of course has very large economic implications, derives its meaning from that part of copyright principle summarized in guideline 4, Sec. 107, of H.R. 2512/S. 597, the Copyright Revision Bill.

"In determining whether the use made of a work is a 'fair use' the factors to be considered include:. . . and (4) the effect of the use upon the potential market for or value of the copyrighted work."

Because it is usually not damaging to copy a small amount of work, it does not follow that damage occurs in some direct proportion to the total size of the work. The point has been frequently made that journals are presented in the form that they are--a package of reasonably related articles--for economic reasons. Separates are a far more desirable means of making documents available to the user. The various copying devices, and those alerting services and searching systems which guide the user to a specific paper have combined to provide the user with access to separates. Thus separate articles are being republished after original publication in the journal. Maximum damage exists at the point at which a single article is copied in full. Users are not interested in copying the complete journal except on microfilm for archival purposes. The cost of copying a single article is already far below the yearly subscription rate to any journal. Thus an area to be examined is the extent which the capability of reproducing a single article in a journal has affected total subscription sales and potential sales of a journal. We are not trying to suggest the demise of the journal in favor of published separates. We do not see how this can be done economically in the private sector without heavy federal subsidy. It is in this light that the "effect of the potential market for, or value of, the copyrighted work" must be examined.

Though it may seem that the theme being developed by this analysis is negative, this is not the case. The amount of copying now being done of copyrighted material suggests that the use and therefore the market value of the material in periodicals and certain kinds of monographs has increased to the point that income from this selective reproduction of material can be profitably recovered.

"The First Annual Report by CICP Study Group," referred to in Chapter 1, "Short History of the Problem," included the following as a necessary specification of a solution to the copyright dilemma:

"The solution should provide revenues which support scientific and educational publication. This support need not be confined to compensation for loss of circulation, but could be a main source of income."[2]

Section I

Analysis of Current Practices of Libraries and Information Centers

The administrative practices of librarians and their management control the amount of copying of copyrighted material done by their staff or permissively done by their clients. These practices are a reflection of their viewpoint regarding the meaning of copyright law in general and the fair use concept in particular. The quantitative analysis of Section II (Chapter 5) shows one-at-a-time copying is producing the large volume of reproduction of copyrighted material by libraries and information centers. Therefore, though almost all of the organizations surveyed observed a no-multiple copying rule for non-authorized copying, the restriction appears to be economically meaningless at this time. It is also reasonable to assume that the library client who uses a coin-operated machine will only make a single copy because of a cost of 10¢ to 25¢ per page. Sixty-five of the 66 libraries responded to query 22: What are the limits placed on the number of multiple copies made of the same item? Forty-nine libraries stated they never made multiple copies and two that they almost never did (Survey Table XXII, Appendix C). Conversely, all the single-copy limitations reported by the responding centers (query 21), except for one institution which can be named--the Library of Congress--are the result of budgetary or other administrative controls, rather than of controls for legal reasons. Forty-five libraries imposed no limits on making single copies of copyrighted material (Survey Table XXI).

As the control point is the library, the regulations regarding the amount and kind of copying permitted by its management are of interest. Of the restrictions imposed on single copying (numerical, budgetary, available machine time and available staff time), none are absolute. The responses indicated that if the financial and staff resources were unlimited, all except the Library of Congress would place no limitation on single-copy reproduction. Thus it can be concluded that in general within any single institution the restriction on the number of items of which single copies can be made is a financial one rather than a legal one.

2 meg

The Single Copy Equals Fair Use Concept

Although virtually no limitations are placed on single-copy reproduction, a significantly high percentage of respondents (77%) indicate multiple copying of one item for the same client is not permitted (Survey Table XXII).

Query 36 of the survey asked:

> How do you relate your copying practices with the present or projected copyright law? (The present copyright law grants exclusive rights to the copyright owner for the reproduction and distribution of copies and does not in any way define so-called "fair use."
>
> The projected copyright law grants exclusive right to copyrighted works to the owner to reproduce the copyrighted work to the public by sale or other transfer of ownership or by rental, lease or lending. The projected law contains a "fair use" clause (paragraph 107) which permits reproduction of copies for purposes such as criticism, comment, news reporting, teaching, scholarship or research. In determining whether the use made of a work is a "fair use" the factors to be considered include:
>
> 1. The purpose and character of the use;
> 2. the nature of the copyrighted work;
> 3. the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
> 4. the effect of the use upon the potential market for or value of the copyrighted work.
>
> The projected law also permits a non-profit institution having archival custody of collections of manuscripts to reproduce a copyrighted work for purposes of preservation, security and for deposit.) How do you relate your copying practices with the present or projected copyright law?

The brief restatement of current copyright law and the summary guidelines of fair use in section 107 of the Copyright Revision Bill were added to make certain the respondent be as clear about the law of fair use as it is possible to be.

The librarian has tended to equate the making of a single copy of copyrighted material with fair use. Query 36 was phrased to encourage the fullest response in order that an understanding might be obtained of how individual librarians--as opposed to library associations--justify, explain or argue their positions. Survey Table XXXVI summarizes the results of query 36. This confirms the public position of the library profession. For all practical purposes, according to the tabulation of the responses to query 36, the librarians judge themselves in compliance with the law under the "fair use" concept. Their separate responses should be read with Chapter 4--"Fair Use: What is the Law?" in mind. Chapter 4 is an effort to examine this aspect of copyright law, that is, what the law says and how the courts have interpreted specific cases they have judged. No substantial legal base for the extensive copying of copyrighted material now being done was found. In view of this the responses to query 36 are illuminating:

Responses to Query 36

- We will make one or at most two copies and these for research and development and education.
- We see no conflict.
- Our practices are in conformity with past and projected /copyright/ law.
- We are not in violation. DDC and ASPER regulations say the Government has unlimited rights where Government puts up dollars for research and development although the published results are copyrighted.
- Our copying is interpreted as coming under the usual interpretation of fair use. As all librarians interpret the law, we are not in violation.
- Our copying practices relate to research or scholarship and teaching and to the "fair use" section of the projected law. Copying also prevents tearing out of pages.
- We are within "fair use." Scholarly and industrial use is the same.
- This library follows the principle of "fair use" as understood by reading ALA and SLA journals.
- We do not copy copyrighted material in books. We do not copy journal material if we are aware of prohibition /against copying/.
- I would say we are within the letter and spirit of law as it is and as it is projected.
- We'll continue present practices. When our legal department advises us differently we'll stop present practices.
- We think we are in compliance with "fair use" as it is interpreted by the library profession. One copy is made for /scholars/ engaged in research.
- We believe the Library is in full compliance /with the law/.
- We feel we are not violating the law, although it has been

sort of nebulous. If a person receives one copy for scientific research, we do not compete with copyright holder. This is based on Ralph Shaw's book on Literary Property in the United States.

- I feel we are in general compliance with the accepted notion of "fair use," as librarians understand it.
- I feel we are in general compliance with the law. Global Medicine is the primary user of multiple copies and permission is always obtained for this. Multiple copies /for other reasons/ are rarely made.
- Projected law seems subject to "fair use" interpretation. This library is presently in compliance with the law. I don't think the law is enforceable and librarians who want to can get around the law.
- We feel that supplying one copy to one member within our organization does not violate the law, unless it is material supplied for limited numbers of subscribers such as newsletters or services which we don't copy.
- We do copying to replace torn-out pages, and do not copy for other purposes. Users copy on their own behalf.
- We feel that we are supplying a need for internal purposes and are in general in compliance with accepted notions of copyright and "fair use."
- Copies are made singly only for "research" purposes.
- We believe that present practices conform to "fair use" and that the proposed law would require no change in our practices.
- The policy of the library is to maintain a policy of fair use in order for academic libraries to function in assistance of research. We abide by the interpretation of fair use.
- We have been trying to live within "fair use" doctrine since December 1964. We believe our current practice to be lawful. If our interpretation of the proposed law is correct "fair use" would allow us to continue our present procedures. If further amendments to the proposed law should interfere with the growing trend of substitution of photocopy for loan the nation's educational and research activities could be adversely affected.
- The projected copyright law sounds more feasible from a working point of view than the present one. We are in accordance with fair use--we only produce one copy for research purposes.
- The present position of our general counsel is that copying is in conformity with the general interpretation of fair use.
- Our use is mainly single copying for scholarly purposes and is in compliance with common interpretation /of "fair use"/.
- We are upholding copyright law in terms of general understanding of "fair use" doctrine.
- The library is following ALA code, Gentlemen's Agreement, etc., and is in compliance /with copyright law/ as it is commonly understood under "fair use."
- Journal literature is unprotected at this point. There is

far more copying than of other items. The library's effort is to get information out. It is really not justified on an ethical basis. /There is/ no objection to increasing income based on use. Fair use is stretched.

- We have assumed our copying to be "fair use."
- We are hewing the line to the best of our knowledge to generally accepted concept of copyright as understood by library profession. We strictly obey the one copy concept.
- We copy in accordance with the accepted notion of copyright held by the library profession with respect to fair use.
- We are holding to generally accepted ALA practice of "fair use" and permit no multiple copying of copyrighted /material/.
- We practice the "fair use" doctrine.
- We are in compliance /with the copyright law/. We copy mainly journal articles and reports.
- We don't think copying practices would change under the new law--we are in compliance with the accepted sense of "fair use."
- The library does not copy much on a patron's behalf. The library is aware of copyright problems, and attempts to keep to the provisions of "fair use."
- We observe "fair use."
- In the case of newspapers, we get permission; in the case of articles we abide by "fair use" doctrine.
- We adhere to "fair use" practices.
- We abide by "fair use."
- I would not change present practices under the new law because they are within the realm of "fair use" as defined above. We are a non-profit research institution /and are/ not copying material that would normally be purchased.
- We don't copy more than one copy, and inter-library loan operations are involved legitimately in research activities. Our users only want one copy for research /purposes/.
- We presently adhere to "fair use" of copyrighted material. The new law would complicate copying policies and would probably call for a drastic and unfavorable change in our policies.
- We conform to fair use concept and believe in the need for upholding copyright.
- The library generally follows the "fair use" principle.
- The projected law empowers us to continue as before--fair use for research purposes.
- Any attempt to obtain needed reference material by means other than photocopy is doomed to failure in such a high percentage of the cases that this route is impractical. Authors cannot be located or do not honor requests or are out of copies. Publishers will not furnish reprints and copies of journals beyond current ones are not available at any price. It takes so long for correspondence to be initiated and receive replies that the need for the articles

has had to be met by some other means in order for the ordinary course of business to continue, and often no copy is ever received, anyway. Before Xerox and Verifax, typists copied the articles, a time consuming and costly process. Now we xerox, allowing for a far more efficient use of personnel. Record keeping would lose this more efficient use of time and personnel by added effort and expense in the Library and Accounting Departments, a higher priced route than a typing pool. Present day procedures allow for increased referencing and bibliographic work--something of far more value and prestige to author and publisher than the 25¢ to 50¢ he might possibly receive as royalty on the 8 or 10 copies per year for the first one or two years.

Since the authors of scientific articles are not paid for their articles anyway (they pay the publisher to get their articles published), the authors would collect nothing. The publisher would collect so little that, (1) it would not be worth his record keeping for Internal Revenue Service and in order to prove to the author that he really is NOT getting wealthy from the proceeds of the author's brainchild, and (2) what the publisher did collect would not begin to offset the loss in publisher prestige from the eventual resulting drop in number of times articles published in his journal would be referenced in future articles and in bibliographic work.

This drop in referencing and bibliographic listings would occur concomitant to the unavailability of a reprint in an author's or bibliographer's hands at the time he is writing a new paper or compiling a bibliography. Many worthwhile papers would be doomed to die forever unseen and unused because no usable copy was available. There would result a stifling and hampering of the scientific effort and its free recording, and even more wheels would be reinvented than now are.

If you doubt this position, note the growth of Citation Indexes since the advent of easier copying methods. This is not accidental.

- Our practices appear to be consistent with the projected "fair use" clause.
- We believe that present practices conform to "fair use" and that the proposed law would require no change in our practices.
- We plan on obeying the law. We have been very careful not to overstep the "fair use" one copy for research doctrine. I feel we have been downright conservative on this.
- We don't think our practices would be changed. We observe the "fair use" interpretation as librarians see the law. We provide work for research; we wouldn't provide 20 copies for a professor's students.
- We observe the law in providing one copy of an article to one person, as this law is commonly interpreted in the library

profession under the concept of "fair use."

- We have not considered it.
- We at present follow the "fair use" idea in rather liberal fashion.
- We operate within the framework of the fair use doctrine, based on judicial interpretations of the present copyright law.
- We will be copying some archival material in the future and see no major problem.
- Actually I see no difference between the present and the proposed law (except for archives) and thus cannot answer this question.

The Checking Questions

Queries 33 and 34 were actually checks against queries 21, 22 and 36. It was hoped that the questions might bring out any shades of difference of behavioral or administrative practices regarding the copying of copyrighted material that would not be expressed in response to query 36.

Query 33 asked: What provision does the library make for getting permission to copy copyrighted items? The responses to this question confirmed the responses to queries 21, 22 and 36. A few minor deviations were noted. Four of the respondents stated that if they have an indication the requested material is intended for inclusion in another report, they insist that permission for reproduction must be obtained from the copyright owner, even though only a single copy is provided. One respondent reported that even single copies of translated material are not made because of a greater awareness of the cost of preparing translations. Two librarians confirmed that the Library of Congress will not provide any copies of copyrighted material without an accompanying authorization from the owner, or unless the Library of Congress has a blanket authorization on file. Another reported it will not copy maps, nor will it copy for archival purposes without permission. In general, the responses show that there is no standard set of rules for obtaining permission to copy, if permission is sought at all. The rules that are followed are inconsistent, and apparently for the most part ad hoc.

Query 34 asked: Has the library stopped or altered any of its copying services because of copyright questions. Of the 66 respondents, three did not answer. Of the remaining 63, six responded in the affirmative. Four of these discontinued permanently or temporarily copying the works of certain publishers at the request of the publisher or copyright owner. One discontinued copying musical scores which it had been reproducing for the University's music department.

The most interesting response concerned the discontinuance of an experimental facsimile transmission system between a resource library and an industrial firm in 1962. Legal counsel for the firm insisted that the program be halted. Counsel for the resource library in response to a question about the proposed program answered: "Properly restricted, reproduction of copyrighted material does not constitute an infringement of copyright. But on the facts of the present case, the client's practices seem to fall outside the bounds of propriety." The industrial firm continues to receive copies of copyrighted material through the conventional inter-library loan system and also continues to make single copies from its own holdings for in-house use. The only conclusion that can be drawn from these facts is that neither attorney cared to have the fair use concept put to a court test, which might have resulted from such an experimental program. The greater vulnerability of the industrial company as against that of the non-profit resource library was of particular concern to the corporation's counsel.

Aborted or Curtailed Library Services Due to Action of Copyright Owner

Query 35 had as its purpose the identification of instances of copyright owner-induced curtailment of copying programs. The only way that a complete answer to this question can be obtained is by inquiry to every library and resource center in the country. The query was: Have any copyright owners placed, or attempted to place, limitations on copying of their materials, and, if so, how did this affect the library's copying practices? (Give details, results of action.)

Only one respondent confirmed that the library had had a continuing policy since 1958 of not reproducing anything, even in single copy, from a set of journals published by one publisher. Peculiarly, this library in its internal instructions, states:

> 2. The /name deleted/ Library can make three copies for a single requestor of any article in any journal in its possession EXCEPT never under any circumstances reproduce ANYTHING from the following journals without a copyright release from the publisher. /List of journals and name of publisher deleted./ To do so will get us into VERY SERIOUS trouble. The person assembling the order, the person doing the actual reproductive work and the person handling the bills, must watch for any mistakes

> that the other has made and not send the photostats if already done.
>
> These are the journals at present from which no reproductions are to be made. I repeat, Reproducing from the above will be a VERY SERIOUS MATTER.

Another library, upon the insistence of a publisher, discontinued providing single copies of the publisher's works. On the advice of counsel, it has returned to its prior position of providing single copies.

ERIC

A brief reference should be made to the policy of the U.S. Office of Education. Its Educational Resources Information Center (ERIC) is a comprehensive national information system which makes available current educational and research-related materials. There are currently eighteen clearinghouses. The reports are indexed, abstracted and put on microfiche. ERIC will not copy a copyrighted work without permission of the copyright owner. An experimental copyright clearance program has been funded for the American Textbook Publishers Institute to seek limited clearance for reproduction in response to any specific ERIC clearinghouse request.

ERIC is the youngest of the national information clearance systems. Because of this, the U.S. Office of Education has had the opportunity to build its ERIC program in cooperation with the educational publishers. Recognition of the rights of the copyright owner may have slowed and limited some of the services ERIC can supply at this time, but was held preferable to ignoring the copyright owner. From this position ERIC will be able to be responsive to changes in copyright law and practice.

Do Libraries Profit from Copying Facilities and Services?

Librarians claim that their organizations do not profit from the copying services they provide. This is apparently true as regards non-industrial libraries, though data for a cost analysis

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*Copyright Permissions Clearing House for Project ERIC, September 1967, from American Book Publishers Council and the American Textbook Publishers Institute.

were not obtained. Despite this, some observations are possible from the responses to query 29: What are the charges per page for copying? (Survey Table XXIX.) Of 58 libraries on which data were obtained, seven (governmental or industrial libraries) reported interdepartmental bookkeeping. Of 51 providing external services, 32, or 63 per cent, charged from nothing to 10¢ per page. Twelve of these, or 24 per cent, provided free copying services. Minimum charges were not recorded as they are normally established in order to protect against loss rather than to provide a gain.

Five of six libraries which reported a coin-operated copying service charged 10¢ per page. One charged 25¢ per page. This is in line with the non-coin-operated machine page charges. Commonly available cost data for electrostatic copying indicate that in either case copying charges are generally based on the unit cost of completing the transaction. Thus these data tend to support the disclaimers on the library order forms (usually requiring the signature of the client) which read, e.g.,

> The reproductions are made as a service to the applicant and are not for sale. The fee charged for the service is on the basis of no profit to the library.

or:

> I desire reproduction in place of loan of publication or manual transcription solely for research. I will not further reproduce this material without express permission of the copyright owner, if any; I am not purchasing the reproduction and the fee is exclusively for your service as my agent in copying upon my request. I assume full responsibility to any copyright proprietor for your acts in so copying.

The non-profit status of the institution or the non-profiting aspect of the activity may, however, only be mitigating (see Chapter 3, pages 18 and 24).

The confused and paradoxical situation faced by the librarians extends also to a client making use of a self-service coin-operated copying device. He may sign a disclaimer similar to one of the two above and then read a notice on the copying device as he prepares his material for copying:

> SUBJECTS NOT TO BE COPIED OR REPRODUCED
> . . . . --There are legal restrictions on many things which may not be photographed, copied or reproduced. Congress

> by statute, has forbidden the copying of subjects substantially enumerated in the list which follows. Those making such copies are subject to penalties of fine or imprisonment. IGNORANCE OF THE LAW IS NOT A SUFFICIENT EXCUSE! . . . . 5. Copyrighted material of any manner or kind (without permission of the copyright owner)."

What is he to believe?

Of the nineteen libraries reporting free-of-charge reproduction, internal bookkeeping or "no data," four (public libraries or university libraries) were found to be making charges for their copying services. Three were government libraries, and one served accredited industrial firms. Eight were industrial libraries, three were part of non-profit, competitive corporations, and one, a university library, _actually_ did not charge.

The foregoing shows that concepts of profit-making alone, or the non-profit status of an organization alone, or the use to be made of the copied work alone, or the amount of copying alone, are insufficient to provide any guidance to the library or its clientele as to whether infringement is actually occurring.

In summary, it may be stated that in all probability libraries, as is claimed, do not profit from the copying services provided for their clientele. However, this conclusion might well be moot in a legal argument in support of current practices because if a profit were obtained, libraries undoubtedly would be considered infringers under copyright law. And even if a profit were not made, the fact still remains that damage to the copyright owner from copying does not entirely flow from the possible profit-making by the copier.

It is also most obvious that with the best of good will toward the copyright owner on the part of the librarian or his clientele, neither can possibly know "the effect of the use upon the potential market for or value of the copyrighted work."* This observation will be discussed more fully in the conclusions under Section III, Chapter 5.

Inter-library and Intra-library Networks: Conventional and Non-conventional

The multiplying effect of the document and information network concept was considered in this study. For the purpose of this report, networks are divided into two classes: conventional and non-conventional.

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*Guideline 4, Section 107, S. 597.

Conventional networks are those in which the library members have substituted supply of photocopies for the direct loan of materials from their holdings, as an extension of classical inter-library loan programs.

Non-conventional networks are those in which wire services connect two or more resource centers, or a resource center and use center, with terminal equipment for searching a stored catalog, index or complete file, which equipment is capable of transmitting a selected abstract, page or article. A more restricted version of this concept is the kind in which selection completes the automatic phase of the transaction and the desired report is manually removed from a file, copied and mailed.

Query 31 asked: Is the library now, or was it in the past, part of, or involved in, any formal or informal network of inter-library relationships?

Of the libraries surveyed, 57 participate in a conventional inter-library loan system and 19 participate in a non-conventional (facsimile transmission) inter-library loan system (Survey Table XXXI).

Section II of this chapter analyzes and estimates the total amount of copying of copyrighted material used by conventional inter-library loan networks. The amount of copying of copyrighted materials for transmission by non-conventional systems is not and probably cannot (at present) be measured. These systems are either too new or experimental. Yet they must be considered as they undoubtedly will contribute on an increasing scale to single-item copying. Their impact on copying will be subordinate, for some time to come. That is, the conventional restricted network will dominate until broader transmission channels, larger capacity read-only memories and greater packing densities on magnetic tape become available.

Answers to query 32: Is the library now contemplating entering any formal network or inter-library relationship in the future? indicate that 26 libraries plan to participate in some sort of network relationship (Survey Table XXXII). Some of the responses to queries 31 and 32 partly describe the planned networks. Reports exist which discuss these programs in great detail.* The only fact noted here is that nineteen now participate in some kind of experimental file searching or facsimile transmission system, and that 26 of the 66 respondents "plan or intend to participate in a network relation."

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*For example, Schatz, Sharon, Facsimile Transmission in Libraries: A State of the Art Survey, Information Systems Office, Library of Congress, June 1967; and INTREX, the Report of a Planning Conference on Information Transfer Experiments, Cambridge, Mass.: Massachusetts Institute of Technology Press, October, 1965.

Electrostatic copiers and other copying devices are available at almost every location where published, copyrighted material is available in some organized form. Therefore, it is possible to examine a limited number of libraries and information centers and obtain a reasonably useful pattern of the practices of the "copying universe" involved; and to expand the data resulting from this pattern, as has been done in Section II of this chapter. This is not true of non-conventional network relationships. About all that can be done is deduce what to expect from the scattered reports on the subject and the very inexplicit responses to the very broad queries 31 and 32.

An analogy might be appropriate here. The information transfer problem can be compared with the transportation problem. Both automobiles and aircraft transport people. Automobiles are free moving, individually controlled, limited in their functional ability only by available roads, traffic and a non-unified set of traffic laws. Aircraft, which accomplish the same task, are a part of a highly-organized system and must operate within a very rigid pattern. Each creates its own social, economic and legal problems. The newer form of transportation--the aircraft--has a definite effect on the older--the automobile. For example, the auto rental services may be mentioned. Yet of and by itself the air transportation network has produced social and economic changes as the automobile did before it.

Thus direct facsimile transmission of text, when it becomes practical and economical, will add to the volume of reproduced copyrighted material. The legal problem remains the same. There is no difference in the nature of an isomorphic copy reproduced within a few feet of space or at a distance of several hundreds or thousands of miles. The most likely immediate effect of the non-conventional network systems will be upon the conventional systems. They will intensify the current copyright problem rather than create a new problem or problems.

The Clearinghouse Systems Question

The last four queries, 39 through 43, were designed to elicit opinions on the clearinghouse concept as a proposed mechanism for solving the copyright problem. At the time the questions were asked, not even the vaguest form of a model for such a system had been outlined beyond the two functions expressed in query 42: What would be the library's response to or attitude toward the concept of a clearinghouse for royalties? (The clearinghouse would be an organization which would have the following two functions: (1) It would be a single point to be contacted for blanket permission for reproduction of copyrighted material. (2) It would collect and disburse monies for the use of copyrighted material from users to copyright holders.)*

The responses to query 42 are reported verbatim and without interpretation:

Responses to Query 42

- I would not favor this arrangement at all even if collection were made "easy."
- As a taxpayer I don't want to pay royalties on manuscript or on other non-copyrighted material. But this seems to be fairer than other means.
- Insurmountable bookkeeping problem. The library could not absorb cost; user should absorb cost.
- Need some type of organization to do this. If there were injustice to copyright holders, this would seem to be a fair way to handle it.
- Easier done with publishers alone; but fairer and more difficult to manage if both sides are involved (user and publisher).
- My question would be do you want royalty collected if I let someone use a book or if I circulate it? Why is it any more reasonable to collect for copying? Should a person copying a book in longhand be charged a royalty? I feel it would be a deterrent to free interchange of information and am absolutely opposed.
- Would consider it unfavorably. Cost would be charged back against contracts.
- Would favor paying one source (to reduce bookkeeping).
- This sounds like it might be practical.

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*Since the summer of 1967 when the survey was conducted, two experimental programs have started: (1) The American Textbook Publishers Institute clearance system in support of ERIC (see page 46, above), and (2) The Committee to Investigate Copyright Problems (CICP)-American Society for Testing and Materials (ASTM) agreement. The contracts on which the CICP-ASTM clearance system is based are included as Appendix E.

- I would approve very much of such a mechanism.

- I think there should be a central depository for all information on science and technology which would protect document by copyright; let a central point announce and index material. I would then give the author a royalty on the basis of use. I would dispense with scientific journals as they are only read by a small portion of scientists and subscribers.

- We would have no objection--would prefer it done in the manner of ASCAP.

- We would be willing to pay a flat fee to one central source. I feel that public libraries violate copyright by lending a book to any comer.

- Would affect our service slightly, but with our low volume it would be easier and less costly to absorb cost.

- No objection providing an efficient system could be developed that would not restrict our deadline needs.

- We would want to know if we are infringing first, and what nature and type of fees are involved. We would have to know more about the economics.

- Users (who would pay the extra charges) and copyright holders (who would receive funds collected) would be affected more than the library.

- At present we would question the desirability of setting up machinery of this sort to collect the very small sums that appear to be involved.

- Clearinghouse would be better than sending to each individual publisher, but still do not consider this proper approach (see Note #4). Note #4: Suppose publisher would charge higher fee for material that would be sold to educational institutions who would have to charge more for prints and this money would then be used to pay higher subscription.

- Could be based on sliding scale based on library size and strength.

- My frank opinion is that there shouldn't be such a thing for "fair use" copying but OK for multiple copying. We think it would have very little bearing on the university. Educators should beware of losing "fair use" principle.

- Since most of our copying is done under the "fair use" provisions, we see little need for the establishment of a clearing house.

- Sounds like a good approach to the problem.

- Acquiesence in this type of thing means you would accept "no" for answer to request permission. Our position is that we have the right to copy under fair use already.

- Would consider this detrimental to the goals of research library. Costs would be an impediment--we cannot find source of funds. Believe that it would be administratively impossible. As an administrator, I oppose it as a budgetary and administrative horror. We are opposed to the additional financial burden. Also we have large foreign collection where we have the only copies in the country.

- If you have to do it, this would seem the logical way to do it.
- We'd go along if a good mechanism were involved.
- Simple. User participation would make it acceptable.
- It would be a great help, if royalties were required and the clearinghouse itself did not charge a prohibitive fee.
- Would depnd on how it is set up. I would not express an opinion unless more details were known.
- I think it would be a good idea and would simplify our problems with respect to copyright.
- We do not think the City Auditor or the Library Commission would let us handle this amount of money without the most detailed financial procedures.
- We are not overly enthusiastic. This could develop into quite a monster (very large with a voracious appetite where money and staff are concerned). We realize that something needs to be done.
- I would like this if they had final authority to grant permission without first checking with the copyright owner. Otherwise I would not approve.
- This would depend on who ran it and how well it operates. Control mechanism would determine an acceptance. Centralized situation would be advantageous.
- Interested. Possibly the only workable method.
- We can't visualize mechanism that is workable or economical, and even if it were, costs would be higher than revenues. In general we would appreciate a clarification of ambiguous current practices.
- We'd be inclined to say "the hell with it," as this is a personal matter between requester and user. This is not our job and we would not accept administrative responsibility.
- We would prefer a clearinghouse for assisting in blanket permission to copy rather than to go to each copyright owner.
- Would favor this as soon as copyright volumes equal repeat sales. We are copyright holders and copiers.
- Would be good for getting clearance not only for photocopy, but also for our faculty members who write, to make it easier for them to get permission to cite and use other's materials. Would favor this if details were known.
- I don't think it could be made to work. How would one audit it?
- Adamantly opposed. We stick to the "fair use" concept and would fight any attempt to set up royalties for one copy jobs in lieu of loan.

- I think it impractical and don't think the money collected would go to publishers and authors.

- If it must be, let it be obviously less costly as to administrative procedures.

- Would resist any record keeping whatever. This would be the final proverbial straw on an already overloaded camel's back.

- Perhaps in the future with immediate response on a national network, this would be feasible, but not until such time.

- We are committed to the soundness of the fair use concept.

- We might set up such a clearinghouse, but only on a self-sustaining basis by collecting some sort of agent's fee.

- The Library would comply with the law.

- We would do what is necessary if and when the copyright law is passed including such a provision. We try our best to service our clientele.

- Our only concern is if it would not make more work for us. Our problem is staff. We don't care what they charge. Opposed to the idea.

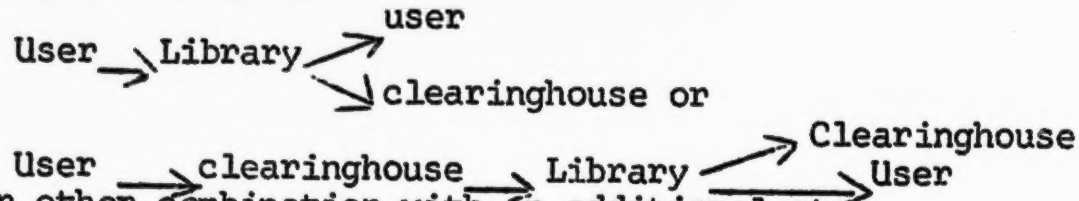
- I think they would be against the whole royalty idea; after all, the board of MLA has in principle lent its support to NLM's effort to fight the Williams & Wilkins case.

- No negative reaction, but not strictly applicable to this library.

- The final definition of "fair use" would determine how much this affected us. If we had to get permission for each copyrighted item, we would probably have to discontinue copying such material. We wonder if the Clearinghouse would be feasible since it would surely be difficult if not impossible for it to get blanket permission on all copyrighted material, and if it didn't have everything libraries would find permission-seeking too much of a bother.

- Too much bother or red tape.

- Rather cumbersome.



or other combination with an additional step.

- Would willingly cooperate.

Query 43 asked: If a clearinghouse were to be established, what type of control or sponsorship would you favor for its organization? Forty-two responses were obtained to this query. They are summarized in Survey Table XXXXIII, Appendix C. Again, interpretation is avoided because of the hypothetical nature of the question, though it does seem fair to say that the user will insist on some equitable participation in the management of a copyright clearance system.

In summary, the responses to these questions provide some guidance for the design of further surveys and planning for clearance system designers, but not much more.

The National Commission on New Technological Uses of Copyrighted Works

Examination of the social, economic and legal consequences which may occur because of non-conventional, automated networks is planned by Congress in S. 2216: "A Bill to Establish a National Commission on New Technological Uses of Copyrighted Works." This was introduced by Senator McClellan in the 90th Congress on August 2, 1967, and passed in the Senate on October 12, 1967.* Section 1 of the bill states: ". . . . (b) The purpose of the Commission is to study and compile data on the reproduction and use of copyrighted works of authorship in automatic systems capable of storing, processing, retrieving, and transferring information and (1) by various forms of machine reproduction. The Commission shall make recommendations as to such changes in copyright law or procedures that may be necessary to assure for such purposes access to copyrighted works and to provide recognition of the rights of copyright owners."

Based on the prognosis of the data-processing industry, the photographic industry and the transmission industry as to the capability of industry to provide the necessary equipment for a more efficient and more economical information transfer process (non-conventional network), the proposed date for the Commission's report (three years after the effective date of the Act) is sufficient for the Commission to complete its work and the Congress to consider the Commission's recommendations.

The meaning behind the simple statement of purpose is to assure that copyright law continues to foster the creation of useful information and access to it; that it continues as a positive force, instead of becoming a punitive and restrictive device; that it continues to provide for fair compensation to the copyright owner regardless of changes in the technology of information transfer, and that it serves the whole public interest.

However, the Commission should do more than shore up the existing structure. It should re-examine the whole structure of copyright law to determine if the fundamental method now provided by copyright law to achieve the national objective "To promote the progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries"* does in fact now do so.

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* S. 2216, 90th Congress, 1st Session, October 12, 1967.

It seems questionable whether, in some areas of creativity, at least, the areas covered by this study--the social, natural and physical sciences, technology and education--the instruments currently available under copyright law are effectively promoting the progress of science or securing the rights of authors.

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* U.S. Constitution, Art. I, sec. 8.

Section II

Economics of Copying of Copyrighted Works

As described in Chapter 4 (Method, Section II) the present section reports two work projects undertaken by the CICP Study Group. Section IIA presents an intensive study of library copying based upon detailed records of copying by six collaborating libraries. Section IIB augments the results of Section IIA with additional analyses based upon the questionnaire-survey of 66 libraries. As far as possible, both sets of results are herein integrated. However, in fulfilment of a promise by the investigator of the six-library copying sample to provide each contributing library with the results of the analysis of the sampling, Section IIA is being issued separately, for their comment and use.

A. Analysis of a Sample of Library Copying

In October 1966 the Committee to Investigate Copyright Problems enlisted the assistance of six libraries in a collaborative effort to record their copying for one month. (The cooperating libraries are mentioned in the preface.)

Five of the six libraries were able to contribute records of one month of copying without cost to the CICP. In all cases there were substantial contributions in time of one or more skilled librarians.

As described previously, three data collection forms were designed by CICP to assist the six collaborating libraries in transferring data from individual library copying records to uniform CICP records. The instruction sheet, sample transfer forms and the summary form (1000 and 1001) are shown in Appendix D. In order to synchronize the copying and to use a period during which all the libraries--industrial, governmental and academic--would be active, the sample was taken during the month of March, 1967. In the summer of 1967 all reports were received. These materials were then collated and used in two ways: directly, in the analysis below (Section IIA); and indirectly, in planning the subsequent investigation and survey-questionnaire for the 66-library study entered upon by CICP with support of the U.S. Office of Education. Results of the latter study pertinent to the economics of copyright follow as Section IIB.

1. Objectives of the Sampling Study

The general objective of the sampling study was to obtain reliable quantitative data on the economics of copying copyrighted material. A subordinate objective was to obtain data useful for guidance in design of any solution to the photocopying-information processing problem of copyright. Subordinate in turn to this was the objective of obtaining data relating to a specific solution--the often-proposed copyright clearinghouse. The feasibility of such a solution depends on design of a sampling system, rather than complete accountability, in view of the enormous number of (mainly) small transactions. The nature of the sample, and its size, are of critical importance, for the sample is subject to several constraints. It must be large enough to be reliable. That is, it must destinguish reliably the amount of copying from the works of each publisher, so as to insure fair distribution of proceeds. It must be small enough to be economical. That is, the cost of obtaining the sample should not absorb most or even much of the proceeds. With the first constraint there is a need for sufficient complexity, while with the second there is a need to keep the sample simple.

It was hypothesized that the number of publishers who originate the bulk of the materials copied by libraries is not large--on the order of 1,000. If this proved to be the case the short list of publishers might provide the needed simplification. Forms 1000 and 1001 were primarily designed to elicit this information. The principal class recorded on these forms is the publisher, with other classes of information subordinate to it. However, although data-collection was arranged in this manner, it is not suggested that any data class was considered or treated as preferential to any other.

2. The Data

The data were transcribed by the six collaborating libraries, first on sheets of Form 1000 and then on standard sheets of Form 1001. Both sets of forms were sent to the CICP. CICP compiled the results mainly from the summary sheets (1001) but the original forms (1000) were also used when it became necessary to resolve ambiguities and errors of transcription. A few other data could be obtained from the original sheets which were not obtainable from the transcribed sheets. The six sets of both forms are kept for reference in the CICP office files.

The data are summarized in Tables I and II. Summaries for each of the six libraries are shown separately, so that each can be examined individually and as a component of the total sample. With exception of a few outside sources to which reference is given in the text, these tables contain most of the material analyzed below. In this analysis, in connection with the objectives stated above, it was found convenient to group much of the data around six "points" or aspects. Each point has a more or less direct bearing on the economics of copying. Some concern mainly copyrighted material; others concern both copyrighted and uncopyrighted material. The six classes are:

(1) the number and distribution of publishers whose works are copied in libraries, by number of titles copied per month; by number of pages copied per month; by number of prints made from copies per month. Note: the names of publishers and publications are not given herein--only the figures. However, they are available in the files.

(b) The ratio of journal copying to other copying, especially to copying of books;

(c) the ratio of journal articles copied as a whole, to articles copied in part;

(d) the "copyright copying curve," that is, distribution of volume of copying by number of years elapsed since date of copyright;

(e) the ratio of copied copyrighted non-profit publications to for-profit publications;

(e) an estimate of overall annual copying in the U.S., and similar data.

3. Results

(a) Publishers

Table I shows a total of 960 publishers whose works were copied by six representative libraries in a one-month sample. Of these, less than 800 were different. This confirmed the hypothesis that the size of the class of publishers whose works are copied in U.S. libraries is on the order of 1,000. By this is not meant that a larger sample of library copying taken over a longer period might not considerably increase the list. All that

	Publishers	Titles				Exposures				Prints			Articles		
		BT	JT	OT	Total	BE	JE	OE	Total	H	M	Total	Whole	Part	Total
Bowdoin	60	133	35	0	168	487	111	0	598	598	0	598	18	17	35
Fort Detrick	93	68	480	0	548	2007	5414	0	7421	7421	0	7421	480	0	480
Harvard	158	74	154	1	229	5274	2025	2158	9457	2922	6535	9457	149	5	154
John Crerar	482	42	2182	5	2229	1056	17893	93	19042	16148	2894	19042	2177	5	2182
Lockheed	142	16	570	4	590	160	5970	40	6170	6170	0	6170	562	8	570
Stanford Law	25	20	23	9	52	142	236	50	428	428	0	428	15	8	23
Total	960	353	3444	19	3816	9126	31649	2341	43116	33687	9429	43116	3401	43	3444
Total, no Overlap	784				2946										

Table I. Summary of Copying Sample, Month of March, 1967
Six U.S. Libraries

Key to Symbols: B: Book J: Journal O: Other T: Title E: Exposure
H: Hard Copy M: Microcopy

	(To March) 1967	1966	1965	1964	1963	1962	1961	1956-1960	1951-1955	1941-1950	1931-1940	Before 1931	Total
Bowdoin	20	39	17	69	73	10	52	95	100	42	24	42	583
Fort Detrick	1354	1195	908	658	434	303	342	955	513	492	242	8	7,404
Harvard	--	--	107	--	12	43	139	88	81	18	10	838	1,336
John Crerar	366	2099	983	709	943	559	371	2346	1630	2018	893	308	13,225
Lockheed	86	76	57	18	28	24	21	71	29	23	9	1	443
Stanford Law	11	67	42	7	26	17	31	79	25	41	15	1	362
Total	1837	3476	2114	1461	1516	956	956	3634	2378	2634	1193	1198	23,353

Table II. Summary of Copying Sample, Month of March, 1967
Number of Exposures from Works Bearing
Copyright Notice, by Date Groupings

is meant is that the size of the class of publishers copied was sampled and found to be within the preliminary estimate.

Insight into the distribution of copied materials by publishers was provided by analysis of the class of publishers copied arranged by descending rank order of numbers of titles copied, and of exposures made from these titles (data not shown here). The first 25 publishers, or 3 per cent of the total, arranged by descending numbers of titles copied accounted for 44 per cent of the total number of titles copied. The first 25 publishers, or 3 per cent of the total, arranged by descending numbers of exposures made accounted for 36 per cent of the total number of exposures in the six-library sample. However, the two lists of 25 were not identical: 14 publishers appeared on both lists, i.e., at most 36 publishers were among the first 25 by either rank order. Placing equal weight on the two percentages, roughly 40% of the material copied (titles and exposures) was provided by less than 5 per cent of the publishers whose works were copied. This unequal distribution within the sample is, of course, central to the problem of sample design. It offers an important area for further investigation.

(b) The Ratio of Journal Copying to Other Copying, Especially to Copying of Books

Table I shows that 3,816 titles were copied in the six-library sample, of which 2,946 were different. Of the 3,816 titles, 3,444 were those of journal articles, 353 were book chapters or excerpts; only 19 were copied from "other" forms such as reports, manuscripts, etc. Of the titles copied, journals dominated books 10 to 1 (Table III), books dominated "other" forms about 18 to 1, and journals dominated "other" by 180 to 1.

If numbers of exposures are used, rather than titles, another descending sequence is obtained: 31,649 exposures from journals, 9,126 from books, 2,341 from other materials copied. The ratios are: journal exposures to book exposures: 3.5 to 1; book exposures to "other" exposures: 3.8 to 1; journal exposures to "other" exposures: 13.5 to 1.

Another ratio of interest is the mean number of exposures per title copied, in the three forms. It is: 9.2 exposures per title for journals, 25.8 exposures per title for books, 123 exposures per title for other forms. The number of exposures per title apparently increases as the use of the type of material decreases. That is, we may hypothesize that

$\left(\frac{\text{Number of exposures}}{\text{Title}}\right)$ varies inversely as $\left(\begin{matrix}\text{use of}\\ \text{material}\end{matrix}\right)$ .... (1)

This might be more compactly expressed in a formula. Suppose we define

E_i = number of exposures in the i^{th} class of material copied.
[i.e., i = 1 (journals), i = 2 (books), i = 3 (other forms)].
T_i = number of titles in the i^{th} class of material copied.
[i = 1 (journals), i = 2 (books), i = 3 (other forms)].
R_i = relative amount of use of copied material in the i^{th} class.
[i.e., $\frac{\text{Number of uses}}{\text{Total uses}}$]

Then we can write (1) as

$$\frac{E_i}{T_i} \sim \frac{1}{R_i} \qquad (i = 1, 2, 3) \text{ .... } (2)$$

where $\sim$ is translated "varies as."

A proportion using the symbol $\sim$ can always be transformed into an equation by introducing a constant. Thus

$$\frac{E_i}{T_i} = \frac{K}{R_i} \qquad (i = 1, 2, 3) \text{ .... } (3)$$

or alternatively, we can multiply both sides by R_i and obtain

$$\frac{E_i R_i}{T_i} = K \qquad (i = 1, 2, 3) \text{ .... } (4)$$

This is a convenient form for testing the hypothesis, and we will use it from here on, in determining values of K.

Now there are at least two possibilities for R_i We can assume R_i is R_{iT}, the relative use of titles in the i^{th} class. Or we can assume R_i is R_{iE}, the relative use of exposures in the i^{th} class.

Clearly, there may be two values of K, which may be called K_E or K_T, depending on whether we use R_{iE} or R_{iT} in equation (4). In order to test which value of R_i gives the most constant value, i.e., comes closest to supporting the hypothesis that such an equation as (4) exists connecting usage classes, we make both computations in the table below:

Form Copied	Exposures E_i	Relative Frequency of Exposures R_{iE}*	Titles T_i	Relative Frequency of Titles R_{iT}*	Expo-sures per Title (E_i/T_i)	Calculated Value	
						$K_E = \frac{E_i}{R_{iE} \times T_i}$	$K_t = \frac{E_i}{R_{iT} \times T_i}$
Journals (1)	31,649	0.734	3,444	0.902	9.15	6.70	8.25
Books (2)	9,126	0.212	353	0.093	25.8	5.48	2.40
Other (3)	2,341	0.054	19	0.005	123.0	6.65	6.15
	43,116	1.000	3,816	1.000		6.28	5.60

$$R_{iE} = \frac{\text{Number of exposures in } i^{th} \text{ copying class}}{\text{Total exposures}}$$

$$R_{iT} = \frac{\text{Number of titles in } i^{th} \text{ copying class}}{\text{Total titles}}$$

It is seen from the last two columns that the three values of K_E are much closer together than the corresponding values of K_T. The average of the K_E values is $K_E = 6.28$ exposures per title. In other words, the three separate equations in (4) are each satisfied by a value for K which is the same to within about 10 per cent. A chi square test shows that the hypothesis that this is indeed the same constant for all three equations is supported with a probability of about 70 per cent.

Let us now rewrite equation (4), substituting the values of i:

$$\frac{E_j R_j}{T_j} = \frac{E_b R_b}{T_b} = \frac{E_o R_o}{T_o} = K \quad (5)$$

This empirical relation states that the number of pages per document in any copying class (here only three: journals, books and "other," but a more detailed sample might extend the number of copying classes) depends only on the relative number of exposures in that class. This is the meaning of the constant, which is independent of copying class. It remains to test the relation more widely, and to extend it to other copying classes.

	Titles			Exposures					Prints		
	BT/ JT	BT/ JT+BT	$\frac{JT}{JT+BT}$	$\frac{BE}{JE}$	$\frac{BE}{JE+BE}$	$\frac{BE}{JE+BE+OE}$	$\frac{JE}{JE+BE}$	$\frac{JE}{JE+BE+OE}$	$\frac{M}{M+H}$	$\frac{M+H}{JT+BT+OT}$	$\frac{M+H}{JE+BE+OE}$
Bowdoin	3.8	0.79	0.21	4.4	0.81	0.81	0.19	0.19	0	3.6	1.0
Fort Detrick	0.14	0.12	0.88	0.37	0.27	0.27	0.73	0.73	0	13.6	1.0
Harvard	0.048	0.32	0.68	2.6	0.72	0.56	0.28	0.22	0.68	41.3	1.0
John Crerar	0.019	0.019	0.98	0.059	0.056	0.055	0.94	0.94	0.15	8.6	1.0
Lockheed	0.028	0.027	0.97	0.027	0.026	0.026	0.97	0.97	0	10.5	1.0
Stanford Law	0.87	0.47	0.53	0.60	0.37	0.33	0.62	0.55	0	8.2	1.0
Average	0.10	0.093	0.91	0.29	0.22	0.21	0.78	0.74	0.22	11.3	1.0

Table III. Distributions from Copying Sample, Six Libraries

Key to Symbols: B: Book J: Journal O: Other T: Title E: Exposure

H: Hard Copy M: Microcopy

Assuming that rule (4) or a successor proves to have some general validity, then it bears on several technical aspects of information science, as well as on copyright. It would introduce the possibility of predicting any one of the variables E_i, T_i or R_i given the other two. It could permit comparison or evaluation of the activity of different reprographic operations by comparing the constants or other variables at two or more such operations. It might extend to new forms of dissemination by duplication, as these become large enough to be statistically significant parts of the total dissemination. It might permit design of a more effective copying sample system. Such possibilities will be briefly reviewed in the conclusions.

Turning from the class of document copied to the class of medium on which copying was done, the ratio of microforms to total prints is about 1 in 5 (Table I). By far the most copying was in the form of "hard copy" at presumably original size. Only certain libraries tend to use microforms as a main dissemination vehicle. Users of copies still tend to prefer reading without visual aids such as microscopes or projectors.

It should not come as a surprise that the total number of prints listed on Table I is 43,116, the same as the number of exposures. This exhibits one of the primary constraints self-imposed upon libraries with photoduplication services. As they now operate, such libraries tend to assume that supplying a single copy is equivalent to "fair use." However, the fact that these numbers matched so exactly scarcely implies that only single copies were ever needed. What it does seem to imply is that the responsibility for making multiple copies was passed along. If multiple copies were needed they were not made by the libraries.

(c) Ratio of Journal Articles Copied as a Whole, to Articles Copied in Part

Another suggestive result of the six-library sampling is in the analysis of articles copied as a whole or in part. As shown on (last three columns of) Table I a total of 3,444 articles were copied, of which 3,401 were copied as a whole. That is, about 99 per cent of articles copied by the six libraries were copied as a whole. This again indicates certain usage habits: either the user of a journal article overwhelmingly prefers to have at his disposal a copy of the entire article rather than a part of it, or the library copying service prefers not to have to scrutinize and subdivide articles ordered. Even when the number of articles copied in part was augmented by the number of book titles copied (presumably copied only in part) copying as a whole was still ten times as great as copying in part.

(d) "Copyright Copying Curve;" Per Cent of Copyrighted Material Copied, etc.

A statistic of prime interest for various reasons is the record of materials copied, by year of copyright, or "copyright copying curve." The method of compiling the results was straightforward. Table II lists individually by year (for each contributing library) the monthly copying for the first seven years elapsed after copyright; and by groups of five or ten years thereafter. The final class (before 1931) was arbitrarily assumed to extend 20 years back from 1931. Columns were totalled for each contributing library and then merged into overall sample totals. Since the six-library sample was taken during March, 1967, the numbers of exposures with 1967 copyright date could not be considered as representing the entire year, i.e., the monthly copying in the "zero" (most recent or current) year. In order to overcome this the curves were first smoothed to a best eye-fit, then extrapolated through the end of the zero year (1967). The original data are shown in Table II and also on Figure 3 for four libraries. The curves for two libraries (Harvard (Widener) and Bowdoin College) contain too few data for certain years, and are more erratic than the other curves. They are shown in Figure 6, again with best eye-fits and extrapolation to current year. The smoothed curves show a steep "monotonic" decrease in copying of copyrighted material with time elapsed after copying. Materials copyrighted earlier are copied less and less frequently.

The data for one library were plotted on a semi-logarithmic basis, to test whether the curve were exponential. The result is shown in Figure 4. With some allowance and smoothing, the curve is representable by an exponential of the form

$$N = N_o e^{-bt}$$

Here t is the time between the current year (t = 0) and the retrospective date year of copyright. N_o is the number of copies per month made in the year of first copyright (t = o) and N is the number of copies of material copyrighted t years ago. The value of the "attenuation constant" b for the John Crerar Library was 0.0087.

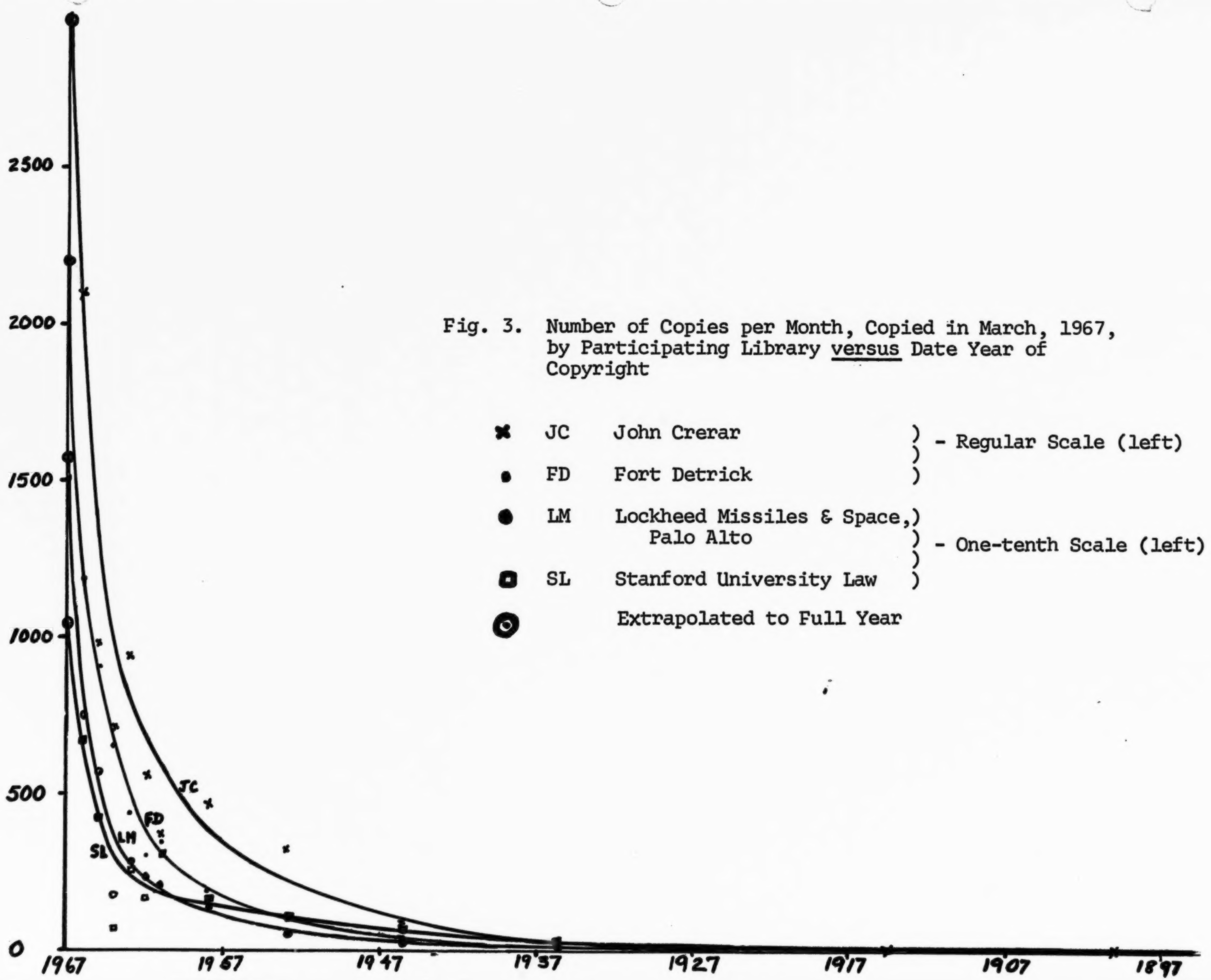


Fig. 3. Number of Copies per Month, Copied in March, 1967, by Participating Library versus Date Year of Copyright

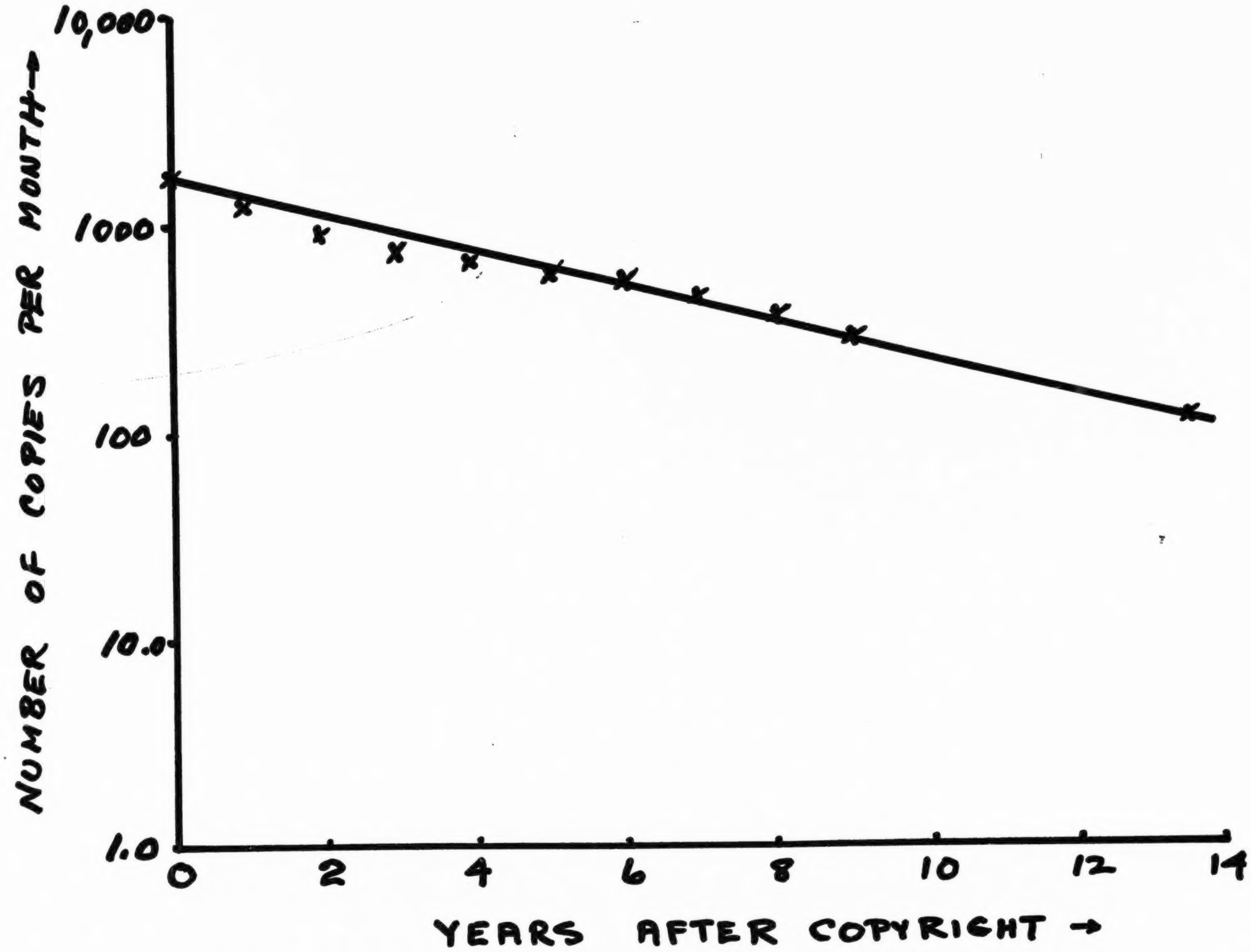


Fig. 4. Test for Exponential Decrease in Copying of Copyrighted Material. Sample from John Crerar Library, March, 1967

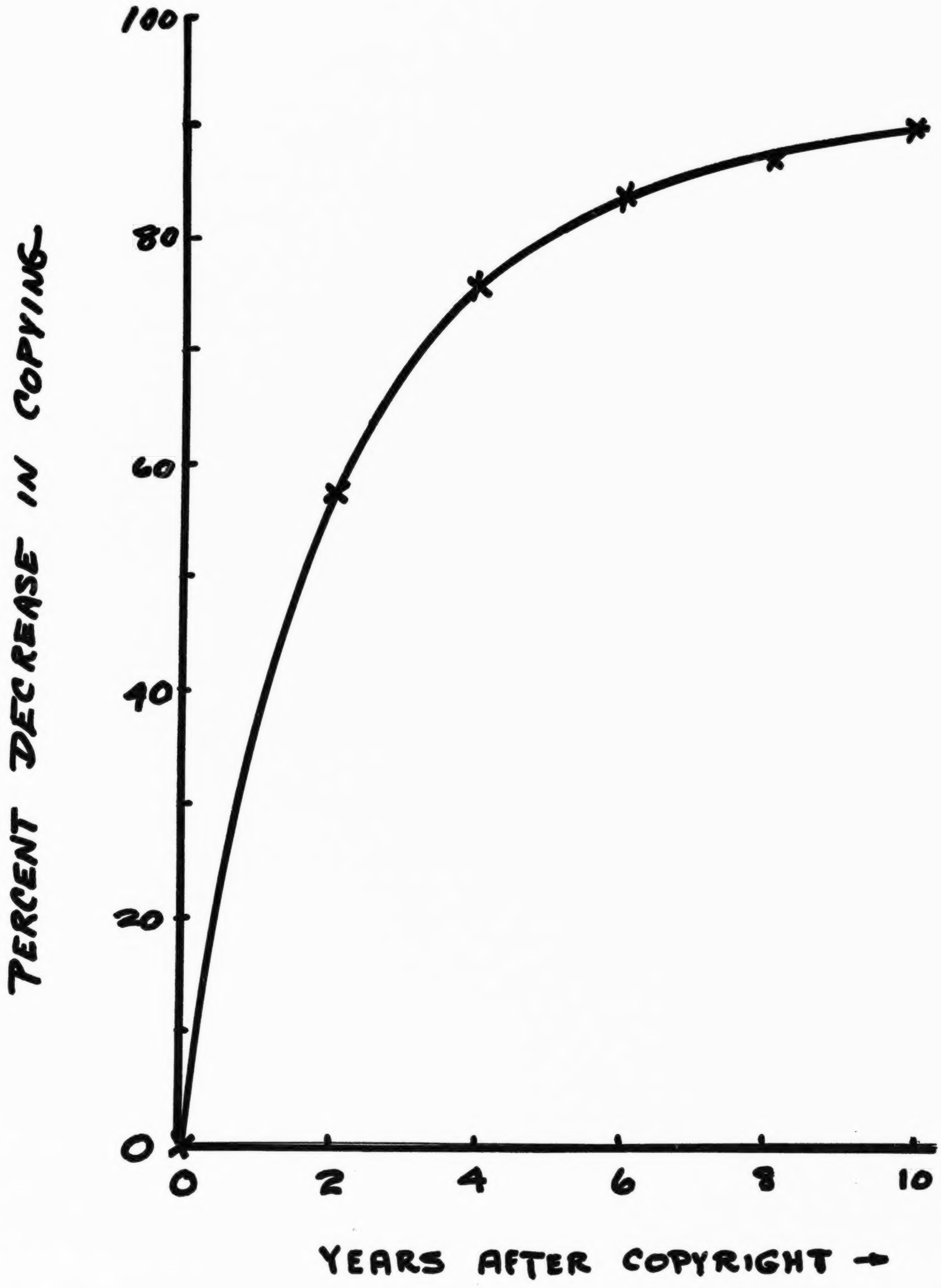


Fig. 5. Percent Decrease in Copying, by Years Elapsed Since Date of Copyright

It is suggested by this that all of the libraries roughly follow copying "decay-curves" which can be represented by exponentials within a range of values for b. The larger values occur for more rapid decrease, the smaller for slower decrease. This offers an area for further study--correlation of rate of copying curve decrease with library type, subject of collection, etc. However, what seems most important here is not so much the further refinement of the (not unexpected) model as the fact that, in six independent samples of copying, the same general shape of copyright-copying curve emerged. As will be discussed later (section IIB), these curves are suggestive of user habits more fundamental than merely habits in copying. If so, they offer some general guidance for information system design.

In line with the most narrow of the objectives of the six-library study, to obtain data relating to design of a copyright clearinghouse, a short study was made to estimate the length of time for which prime economic/legal mutual protection might be offered by such a clearinghouse.

Two steps were taken to prepare the data in Table V. The first (left hand table) records the values from the four smoothed curves of Figure 3. The second (right hand table) computes the linear decrement per year for the first ten years. The results show that, on the average, over 80 per cent of the copying from copyrighted matter occurred in the first five years; and 90 per cent in the first ten years. Figure 5 plots this average decrease in copying (Table V) with years elapsed after the date of copyright. Assuming this curve is confirmed for larger samples, it provides a good basis for preliminary design of contracts and sampling procedures for a clearinghouse for copyrighted material.

In Table IV a column of particular interest is the last column. This shows the ratio of number of exposures of copyrighted material to total exposures (computed from the last column of Table II and the "Total Prints" column of Table I). It is seen that two or three of the libraries have a very high ratio, i.e., they copied almost exclusively from copyrighted materials. On the other hand, two of the libraries made very little use of copyrighted material. Since the types of libraries which used a high ratio are not very similar, nor are the libraries alike which did not use a high ratio, it is impossible at this time to draw a correlation between library type and per cent of copyrighted materials to total materials copied. Rather, from these limited samples it appears to be either a random matter of library rule or of random client usage. Possibly larger samples will show a systematic relation. This seems to be an area for further investigation.

	$\left(\frac{\text{Exposures}}{\text{Titles}}\right)$					Articles Copied		$\left(\frac{\text{Exposures Copyrighted}}{\text{Total Exposures}}\right)$
	$\frac{JE}{JT}$	$\frac{BE}{BT}$	$\frac{OE}{OT}$	$\frac{JE+BE}{JT+BT}$	$\frac{JE+BE+OE}{JT+BT+OT}$	$\frac{P}{P+W}$	$\frac{P+BT}{JT+BT}$	
Bowdoin	3.2	3.7	--	3.6	3.6	0.49	0.90	0.98
Fort Detrick	11.3	29.5	--	13.6	13.6	0	0.12	0.98
Harvard	13.1	71.3	2158	32.0	41.3	0.03	0.51	0.14
John Crerar	8.2	25.1	19	8.5	8.6	0.002	0.021	0.70
Lockheed	10.5	10.0	10	10.5	10.5	0.014	0.041	0.070
Stanford Law	9.7	7.1	6	8.8	12.1	0.29	0.65	0.86
Average	9.2	25.8	123	10.7	11.3	0.012	0.10	0.62

Table IV. Composition of Copying Sample, Six Libraries

Key to Symbols: B: Book J: Journal O: Other T: Title
E: Exposure H: Hard Copy M: Microcopy
W, P: Number of Journal Articles Copied Whole, in Part

	COPIES/MONTH, BY NUMBER OF YEARS ELAPSED SINCE COPYRIGHT							PERCENT* DECREASE IN COPYING/MONTH, BY NUMBER OF YEARS ELAPSED SINCE COPYRIGHT						
Library	0	2	4	5	6	8	10	0	2	4	5	6	8	10
John Crerar	3000	1300	800	690	600	440	340	0	57	73	77	80	85	87
Fort Detrick	2200	920	510	400	320	230	170	0	58	72	82	86	89	92
Lockheed	158	51	27	23	20	15	11	0	68	83	85	87	90	93
Stanford	105	44	24	21	18	16	14	0	58	77	80	83	85	87
Average								0	58	76	81	84	87	90

*Example: $JC(6) = \left[\frac{N(0)-N(6)}{N(0)}\right] \times 100 = \left[\frac{3000-600}{3000}\right] \times 100 = 80$

Table V. Annual Decrease in Copying Copyrighted Material Based on Curves of Figure 1

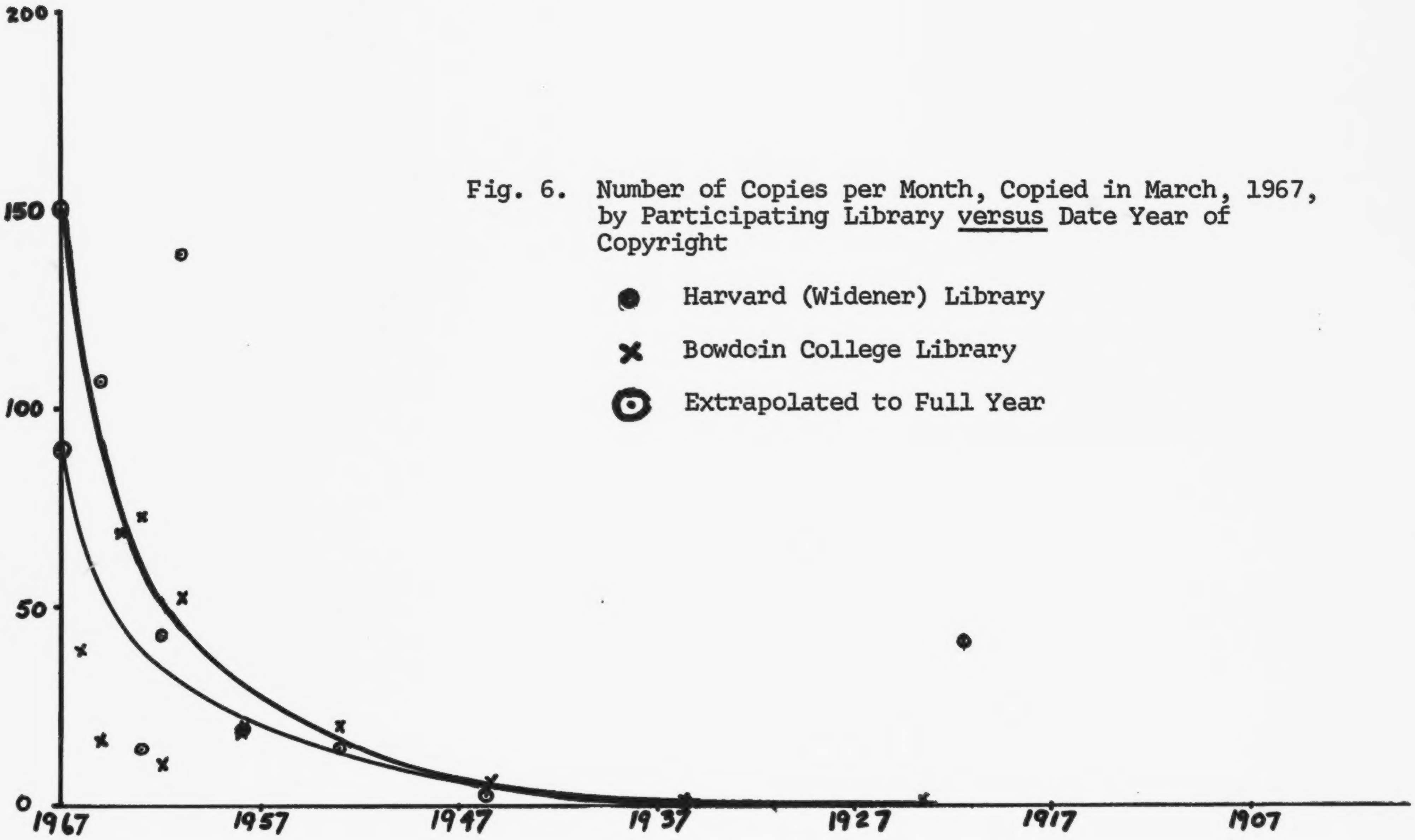


Fig. 6. Number of Copies per Month, Copied in March, 1967, by Participating Library versus Date Year of Copyright

(e) Ratio of Copied Copyrighted Nonprofit Publications to For-Profit Publications

Composition of Sample. The combined sample of library copying was classified as to nonprofit and for-profit status of the publisher. Since this classification was not requested of the reporting libraries it was supplied as far as practical by the research team. In performing this, part of the total sample was omitted. For example, publications other than in book or journal form (marked "O" in the tables) were not used; nor were any publications for which there were insufficient data for identification of nonprofit or for-profit status. The total finally included about 33,000 of the 43,000 exposures, about 3,500 of the 3,800 titles; and represented nearly all publishers.

The data are shown in Table VI.

Since the data were easily separated into U.S. (or "domestic," including a few Canadian and Mexican publications) and Foreign, this classification was made and is shown in the table. However, the geographic division was less reliable than others noted below. The following simple ratios are based on the overall (i.e., combined U.S. and Foreign) data. In each ratio the numerator is a total NP (nonprofit) quantity and the denominator is the corresponding FP (for-profit) quantity. For example:

$$\frac{\text{Total NP Journal Titles Copied}}{\text{Total FP Journal Titles Copied}} = \frac{1{,}637 + 234}{917 + 780} = \frac{1{,}871}{1{,}197} = 1.6$$

The NP/FP ratios are shown in Table VII.

Publishers	1.4
Journal Titles	1.6
Journal exposures	1.8
Book Titles	0.5
Book Exposures	0.7

Table VII. NP/FP Ratios

These ratios bring out some rather striking facts. In the first place, there were numerically more NP than FP publishers copied. The ratios for journal titles copied and exposures made from journals are slightly larger. This indicates that volume-wise the nonprofit journal publications dominated the sample.

Number of ↓	UNITED STATES				FOREIGN				Totals
	Non-profit		For Profit		Non-profit		For Profit		
	Books	Journals	Books	Journals	Books	Journals	Books	Journals	Totals
Titles	101	1,637	260	917	28	234	29	280	3,486
Exposures	1,660	13,532	2,932	6,804	1,234	2,832	1,146	2,444	32,584
Publishers	345		213		114		105		777

Table VI. Copying of Non-profit and For Profit Publications

On the other hand, the ratios for book titles and book exposures are (more or less) the inverse of those for journals. Therefore, how much copying is done NP and FP depends sharply on whether the copying is from journals or books. This finding corresponds with what one would instinctively expect: the main journals copied are those published by professional and scientific societies, i.e., NP publishers. On the other hand, the main books copied are those published by textbook, reference book and similar (mainly) FP publishers.

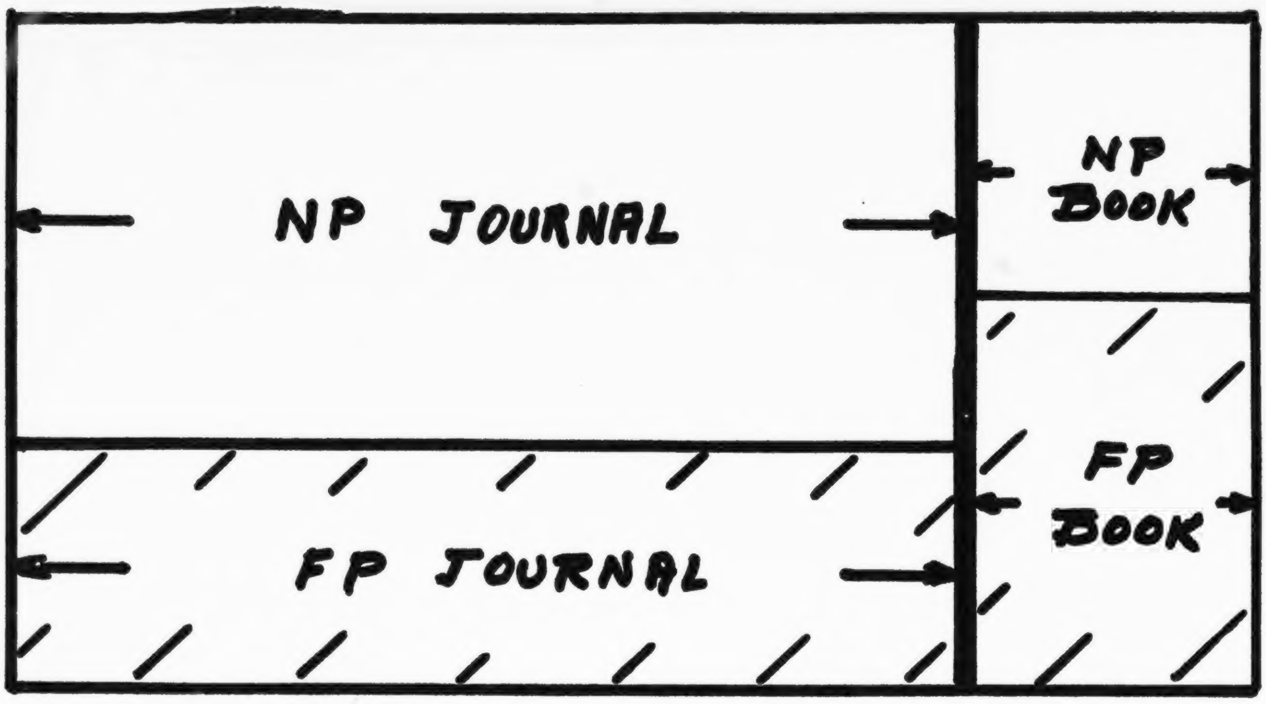
A related classification for appraising the economics of copyright is the relative amount of copying from journals and from books. These data can be obtained from the sample in two ways: from the entire sample (Table III) and from the NP-FP sub-sample (Table VI). Results from both sources are shown in Table VIII. A sample computation:

$$\frac{\text{Total Journal Titles Copied}}{\text{Total Book Titles Copied}} : \frac{1{,}637 + 917 + 234 + 280}{101 + 260 + 28 + 29} = \frac{3{,}068}{418} = 7.3$$

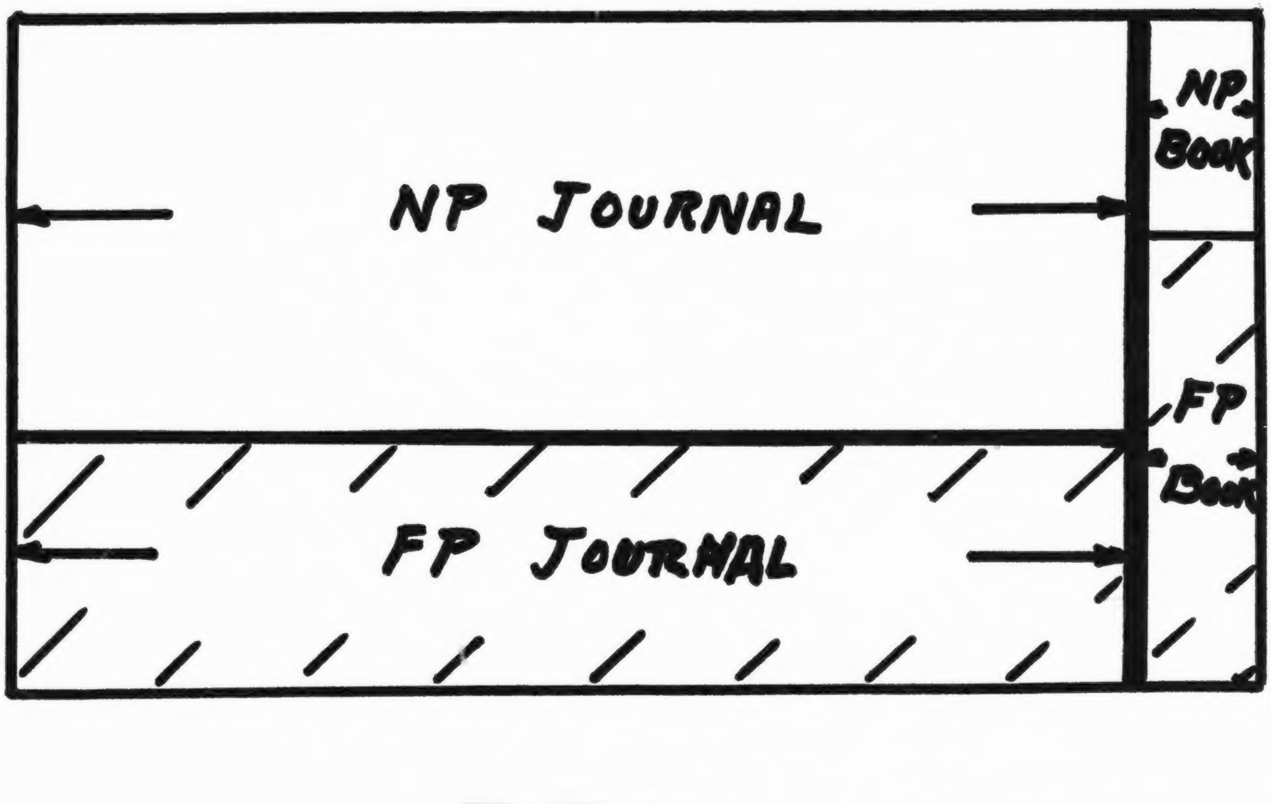
Titles	
Table III	9.8
Table VI.	7.3
Exposures	
Table III	3.5
Table VI.	3.7

Table VIII. Journal/Book Ratios

These data show that journal copying dominates book copying by fairly large factors. If we combine these data with those of Table VII, we obtain (Figure 7) graphic representations of the composition of the copying sample with respect to relative numbers of book and journal exposures and titles; and simultaneously, the NP and FP proportions of each. The "universes" in the case of exposures were 43,000 and 33,000 exposures respectively, and in the case of titles were 3,800 and 3,500 titles respectively. The blank areas represent NP copying, the shaded areas FP copying. The universes of NP/FP ratios for total journal and total book copying are shown vertically. The ratios are indicated by the differences in height of the horizontal lines dividing the shaded and unshaded


NP JOURNAL
NP Book
FP JOURNAL
FP Book

EXPOSURES


NP JOURNAL
NP Book
FP JOURNAL
FP Book

TITLES

Fig. 7. Composition of Sample by Numbers of Units Copied (Horizontal) by Non-profit and for Profit (Vertical)

areas. The overall preponderance of journal over book copying is shown by the unequal horizontal distances between the vertical lines separating journal from book copying. The combination shows that nonprofit material dominates for-profit material both in numbers of titles copied and in exposures.

This evidence would be more complete if a second diagram could be produced showing the relative numbers in Figure 7 weighted by the average costs per page or costs per title, in the four "regions" or categories of each composition diagram. Certain regions would be contracted, others expanded in relative importance. For example, the relatively high cost of certain FP textbooks and reference books (such as encyclopedias, atlases, dictionaries and bibliographic tools) would probably tend to increase the relative importance of FP books. On the other hand certain NP journals are very costly to produce, and might exert an opposite effect. While the fitting-in of cost data represents an important area for further investigation, it nevertheless seems clear on the basis of the cost-unweighted data from the sample that library copying is mainly from journals, and mainly from nonprofit journals.

The above conclusion is important for education, science and all activities depending on journal dissemination. Attention was recently called to an obvious application, in a paper given before the American Society for Engineering Education.[3] The data on which the paper was based are independent of the above data from the six-library sample of copying. Table I from the A.S.E.E. paper is reproduced here. It shows data in turn reproduced from a survey on scientific publishing conducted for the National Science Foundation in 1964 by Herner & Company.

Only the "hard core" of about 400 main scientific and engineering journals are represented. Quoting the A.S.E.E. paper:

> No journals (as a group) in any discipline were completely self-supporting. All depended upon two sources of revenue to make up their deficits.* [*Chemical journals have since added page charges.] All imposed on the contributor or his organization a charge per page, and all received subsidies or grants.

Discipline (Number of Journals in parenthesis)	Percent of Income Supporting Journals			
	Page Charges		Subsidies or Grants	
	Range	Median	Range	Median
Biology (50)	2-28	9	2-17	10
Chemistry (5)	0	0	16-19	17
Earth Sciences (5)	3-9	6	2-5	3
Engineering (15)	2-10	4	15-27	20
Mathematics (11)	5-25	8	3-6	4
Misc. Society (6)	15-36	19	6-10	9
Physics (10)	15-52	35	24-27	25
Social Sciences (24)	1-6	3	1-79	40

TABLE I. Range and Median Percent Income from Page Charges and from Subsidies or Grants, for Professional Society Journals*

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*Characteristics of Professional Scientific Journals, 1962, D.T.H. Campbell, *et al.* Herner and Company, Washington, April 30, 1964.

To page charges and subsidies may be added higher membership dues. The paper concluded:

> In surveys of what is being copied now in large libraries it appears that a large proportion is in the area of science and technology. Of this, a substantial fraction is already copyrighted, and could be increased. Therefore the publishing area in need of deficit support partly if not largely overlaps the area of maximum copying of copyrighted materials. The area would, presumably, be one of the most immediate beneficiaries of a copyright clearinghouse. This is the basis for the argument that a proposed solution to the technology-copyright problem may in fact help solve the journal economics problem.

Geographic Analyses. Division of the NP/FP sample on a geographic basis introduced some uncertainty in that the sample of copying from the John Crerar Library did not include all its copying of foreign publications. This mainly affected ratios comparing U.S. with foreign copying. The following table shows such ratios of total copying (i.e., combined NP and FP data in each category):

Publishers	2.5
Journal Titles	5.0
Book Titles	6.3
Journal Exposures	4.0
Book Exposures	1.9

Table IX. U.S./Foreign Ratios

These ratios indicate a preponderance of U.S. over foreign publishers whose works were copied, and larger preponderances of journal and book titles copied, and of journal exposures made. The lowest ratio, about 2 to 1, was shown for exposures of books copied. All ratios in the table would tend to be lower had all of the John Crerar foreign copying data been available for inclusion. However, the general trend shown--considerably more copying of domestic than of foreign material--would not be reversed, and agrees with what one would intuitively expect.

(f) Estimates of Total Annual Copying

The total annual U.S. copying of published material and its rate of growth are important copyright statistics which, however, can only be estimated. In the following, three independent estimates are compared--one of them arising jointly from the six-library and 66-library studies.

The first two estimates are by the Wall Street Journal[4] and by Arthur D. Little,[5] respectively. The two estimates are not given in the same terms, but have been made comparable by an assumption, namely, that total copying from published material approximates one-tenth of total copying for all purposes. On this basis the estimates for total annual copying from published material are:

	1965	1969
Wall Street Journal	0.6×10^9 copies	1.2×10^9 copies
Arthur D. Little	1.0×10^9 copies	2.9×10^9 copies

A third estimate can be derived from the analysis in Section IIB, queries 9b and 13. Here the total annual copying by libraries for 1967 is estimated at 2.2×10^9 copies per year. Total annual copying of published material, as distinct from total annual copying, is very largely but not entirely library copying. If we make the assumption that the two are approximately the same, then the three estimates can be compared. In the following table the two 1965 and 1969 estimates are interpolated to 1967, and the library-copying estimate for 1967 is extrapolated backward and forward at the estimated average five-year growth rate of 35 per cent (query 13, Section IIB). All derived values are shown in brackets, and all values are expressed in units of 10^9 copies per year:

	1965	1967	1969
Wall Street Journal	0.6	(0.9)	1.2
Arthur D. Little	1.0	(2.0)	2.9
Library Copying Samples	(1.4)	2.2	(3.0)

Table X. Three Estimates of Total Annual Copying of Published Materials

These estimates are within reasonably close agreement. The probable reason for the main discrepancy shown (increasing values, reading from top down) is that this is also the order in which the forecasts were made: 1963, 1966 and late 1967. During this period copying accelerated (section IIB, query 13). The acceleration is reflected in higher estimates as the time of forecast came closer to the forecast periods. Simply for this reason the library-based estimate (which because of assumptions made may be somewhat low) may be the most realistic. It seems safe to assume that copying of published material in 1967 amounted to at least 2 billion pages, and in 1967 will amount to 3 billion pages.

To convert these estimates to estimates of total annual copying of copyrighted published material requires only one further step. They can be multiplied by the ratios of total copyrighted material to total material copied. These were 54 per cent (six-library sample); 59 per cent (66-library sample). Use of the latter figure would give estimates of about 1.3 billion copied copyrighted pages in 1967, and 1.8 billion in 1969. As has been seen (section IIA, 3(c)) there is a wide library-to-library variability in copying of copyrighted material. There is also a wide range in the field-to-field per cent of material copyrighted. A 1964 survey by the Office of Scientific Information of the National Science Foundation[6] reported that in 1962 74 per cent of professional scientific journals were copyrighted in full, and 77 per cent in part. These ratios could change if the economic value of copyright should change. If, for example, a royalty payment system for copies of copyrighted publications should arise which would substantially increase the publishers' income from this source, a much higher per cent of copyrighting by such journals might become general, and the total annual copying of copyrighted material approach closer to the total annual copying of published material.

At this point selective (i.e., not full) use has been made of the data of the six-library copying sample. A similar study follows, of parts of the 66-library survey. Some of the results have already been made use of, and this merging continues.

B. Analysis of 66-Library Questionnaire-Survey

The query numbers under which the 66-library data are analyzed refer to the corresponding numbers in the questionnaire-survey. Each query is stated as in the questionnaire, and the data collected in response to it are found under the corresponding number in Appendix C.

Queries 5 and 6. (5) Types of users (general public, students, scientists, etc.). (6) Major activities and/or subjects of users (if applicable).

The occupational distribution of principal users shows a preponderance of scientific, technical and professional personnel, including educators; and students, presumably a large number of whom are preparing for similar occupations. The same classes of users predominate in the six-library sample. There are not enough data, however, to test how closely the two populations of users may be considered as randomly drawn samples of the same parent population.

Query 8. Types or forms of published material copied (journal articles, book chapters, etc.).

Considering only the most important class reported by 60 libraries, the estimated relative importance was:

Journal articles	85%
Book chapters	10%
Reports	3%
Patents	0%
Miscellaneous	2%
	100%

If weights of 3, 2 and 1 are given rankings 1, 2 and 3 respectively, then the estimated relative importance becomes

Journal articles	59%
Books	23%
Reports	8%
Patents	4%
Miscellaneous	6%

These classes are somewhat broader than those for the six-library sample (journals, books, other) but the same general pattern is shown: journal copying dominates book copying, and book copying dominates all other forms of copying.

Query 9a. Number of exposures or pages of each type or form (in query No. 8) copied per annum.

By assigning the median value of each class (Table IXa) to represent that class, assuming 6 million as the mean value of "more than 5,000,000," and distributing "books and journals not separately reported" in the ratio in which they are reported, the following estimate is obtained:

Form	Total Pages Copied per Year	Per Cent
Journals	15.1×10^6	48
Books	1.6×10^6	5
Reports	8.6×10^6	27
Patents	6.2×10^6	20
	31.5×10^6	100

This distribution differs from those of query 8 chiefly in that the numbers of copies of reports and patents copied are significantly larger than their estimated relative importance. Journal copying again dominates book copying. But copying of reports and of patents numerically dominates book copying.

It should be noted that the number of reporting libraries for query 8 was 60; for query 9a was 44.

Query 9b. Reported number of annual exposures.

By assuming the median of each class (Table IXb) to represent that class, and assuming 6 million as the mean value of "more than 5,000,000," the following estimate is obtained for the total annual exposures of the 55 reporting libraries: 40.8 million exposures per year. This averages approximately 0.75 million exposures per year per library; and compares with approximately 0.09 million per year per library in the six-library study. The higher average reflects the fact that the 66-library sample was selected for copying activity, while the six-library sample was not, and contains several small libraries. Presumably its average is closer to the overall national average than that of the 66-library sample.

Query 11. Number of multiple copies (of same, separate documents) per annum.

Table XXI shows the number of multiple copies per year of the same document for the same patron.

The result for the 66 libraries was not so very different from that for the six-library sample. In that sample no multiple copies were recorded. In the 66-library study 34 of the 47 libraries responding to this question (over 70 per cent) indicated "no" or "negligible" multiple copying. However, the remaining 13 (30 per cent) did indicate a small amount of multiple copying. Using the median values of each range, and assuming no more than 600 for the largest class, there were over 2,800 multiple copies made, or approximately 60 per library per year. Three libraries indicated that multiple copies comprised between 1 and 5 per cent of total annual copying.

The modesty of the reported multiple copying in both the 66-library and six-library studies, in view of the needs of the predominant types of users (scientists in government, industry and education; students, etc.--see query 5), is a significant negative finding. That is, the subject of both studies is library copying. One outcome is the practical absence of library multiple copying. Therefore important remaining questions are how, when and where multiple copies are being made, and in what quantities.

Query 13. Number of pages or exposures copied per year over the past five years: 1962 -, 1963 -, 1964 -, 1965 -, 1966 -.

Table XIII shows the distribution of total annual exposures, by reporting libraries, for the years 1962-1966. Table IXb provided the total annual copying for the year 1967, using the assumptions made for query 9b. The following table incorporates both:

Year	Number of Reporting Libraries	Total Number of Exposures (or Pages) per Year in Units of 1 Million	Number of Pages per Year Copied by Median Library
1962	30	14.3	100,000
1963	33	13.9	100,000-250,000
1964	35	16.8	" "
1965	42	31.1	" "
1966	55	35.9	" "
1967*	55	40.8	" "
% Increase	83	185	small or none

*From Table IXb and assumptions

These data show a steady increase in number of reporting libraries (83 per cent) but more than twice as great an increase in number of pages copied per year. The annual growth in reporting libraries, and in exposures, averaged about 16 and 37 per cent per year, respectively. This indicates not only more libraries offering photocopying services, but increased services. The last column shows that the total number of copies per year by the median library remained approximately constant. That is, the number of new libraries offering photoduplication services balanced the increase in copying by established services, so that the median library did not increase its annual total. This in turn suggests a way of making a rough check on the total annual copying by libraries in the U.S. Assume the total number of libraries in the U.S. reported by the American Library Association for 1967, 24,500. (This figure omits the smallest units.) Assume the average annual copying in the U.S. is to the average annual copying of the especially active 66-library sample in the ratio of 0.09 to 0.75 (i.e., in the ratio of the average for the six-libraries to the ratio of the average for the 66 libraries. The former included several small libraries, and their sample average is here taken as more representative of a national average). Then an estimate for the total annual copying by U.S. libraries for 1967 is $0.09 \times 10^6 \times 24{,}500 = 2.2 \times 10^9$ or 2.2 billion copies per year. (This estimate has been compared in Section IIA, 3(f), with two other independent estimates.)

Queries 16 and 17. (16): Estimate of relative ages of serials or periodicals copied (in percentages: ___% less than one year, ___% 1 - 2 years, ___% 3 - 5 years, ___% 6 - 8 years, ___% 9 - 10 years, ___% over 10 years. (17) Estimate relative ages of monographic materials from which copies are made (in percentages): ___% less than one year, ___% 1 - 2 years, ___% 3 - 5 years, ___% 6 - 8 years, ___% 9 - 10 years, ___% over 10 years.

The age distributions of serials or periodicals and monographs copied is shown in Tables XVI and XVII, Appendix C. These data indicate an amount of copying which descends somewhat sharply over the first decade, as in the case of the copying curves in the six-library sample, Section IIA, 3(d).

At this point it may be appropriate to ask whether the copying curves are not, in fact, simply "use curves" and indicative of a broader and older phenomenon than that of photocopying practices. An affirmative answer is provided by a well-known large-scale use-study carried on by the University of Chicago.[7] For example, Figure 12 in that study shows a sharp decrease in use (in 1954-1958) of monographs with successively older publication dates, similar to the decreases recorded here for copying. There are more rapid decreases (sharper slopes) for the component of sciences; and less rapid decreases (flatter slopes) for the component of humanities (Figures 13b and 13a respectively). The same phenomenon is shown for uses of serials in 1955-1959: uses of scientific serials (e.g., in Biology--Figure 16b) fall rapidly with age; uses of serials in the humanities (e.g., Teutonic languages and literatures, Figure 16a) fall very little if at all. The general use pattern for both books and journals, then, is a decrease with date of publication rapidly (science) and slowly (humanities). It is therefore reasonable to assume that the rate of decrease in use-curves has some relation to their subject-composition. For example, an overall use curve which tends to fall rapidly would probably contain a large scientific component. However, more research is needed before we can reliably characterize library type by "use decay curve."

The Chicago studies of uses of monographs and serials were made in a period before the greatest rise in photocopying. Therefore the overall pattern of declining use with age since publication is presumably the basic phenomenon underlying the age-distributions found for copying in the two present studies. The copying curves may be interpreted as use curves. That is, they simply represent basic habits and use patterns, translated into, and perhaps accentuated by, uses of new technology. They do not appear to be new effects peculiar to the new technology.*

On the other hand, if copying data can be used to represent use under reasonably broad conditions of the new technology, then a new data base for research becomes available. Not only the specific questions of copyright but more general questions concerning usage relations in other areas of information science may be attacked. It is desirable to verify these types of relations, as they may provide criteria for quantitative design of information systems.

Query 18. Approximate percentage of scientific and nonscientific and technical materials copied: ___% scientific and technical;

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*Some older use curves show a period of rise before falling off. As technology has shortened the access time between publication and use, later curves should show this rise-period as shorter and shorter. The curves in Section IIA, Figures 3 and 6, show the "ideal"--an exponential fall from date of publication. They represent actual use except for very short intervals near the start of the curves ($t = o$).

___% non-scientific and non-technical (humanities and social sciences).

The estimated percentage of all materials copied represented by scientific and technical materials is shown in Table XVIII, Appendix C. Of the 51 libraries reporting, 44 or 84 per cent reported between 41 per cent and 100 per cent of all material copied as scientific and technical. This result reflects in part the choice of libraries, i.e., a non-random sample. Nevertheless it reflects a preponderance of scientific and technical material copied among the most actively copying libraries in the United States, and tends to substantiate the same finding in the six-library study.

Queries 21 and 22. (21): Limits on number of single copies per user; (22) limits on number of multiple copies of the same item for the same patron.

Nearly all of the 66 libraries placed no limits (Table XXI), other than those imposed by economics and personnel, on the number of single copies of different documents for the same patron. Table XXII shows that 51/65 or 78 per cent nearly always imposed limits on multiple copies of the same document for the same patron. As was found from query 11, libraries appear alert to the problem of copyright infringement, and interpret a single copy as within "fair use."

Query 23. By what process(es) are multiple copies made?

Only 36 libraries replied. For those which did Table XXIII shows the following practice in making multiple copies

Xerography	69%
Silver halide photography	21%
Multilith, DTR and other	10%
	100%

Since the quality of copy by the various methods is more widely acceptable than the respective differences in time to make copies, it may be inferred that time was the determining factor and, perhaps, convenience next. Xerographic equipment appears the most popular at present for rapid, multiple copying.

Queries 26 and 27. (26): Speed of delivery of copies (in percentages) ___% same day, ___% 24 hours, ___% 2 days, ---% 3 days,

___% 4 days, ___% 5 days, ___% over 5 days. (27) Factors or priorities governing speed of copying.

The suggestion in query 23 that libraries try to meet the shortening time requirements for copies by patrons, and demands on time of their own personnel, is borne out by examining Table XXVI. Fifty per cent of the reporting libraries met 41 to 100 per cent of their copy orders the same day. The economic importance of time is also shown in Table XXVII. The chief factors in fulfilling orders (aside from machine speed, availability of personnel, etc.) were the priorities given by "rush" orders and by the importance of the requestor. Apparently client status often was equated with need to hurry.

Query 29. Charges per page or other unit (break down by copying process).

Table XXIX shows that most charges per exposure are between 1¢ and 15¢. Aside from a substantial group (about 22 per cent of the reporting libraries) which make no charge for copies, the "charge per copy curve" (based on both xerography and silver halide photography) starts with a few library charges between 1¢ and 5%, reaches a maximum for library charges between 6¢ and 10¢, and gradually decreases.

The charge per copy to the client is an important parameter in the economics of copyright. At this one point in space and time the user presumably reimburses all parties concerned in supplying him the copy: the author, publisher, copying equipment maker, supplier of copying materials, the copying service (including both the making of the copy and the location of the original on the shelves, in the files or in the memory). The question arises: how many of these contributions to the final copy are (a) adequately paid? (b) over- or underpaid? (c) actually paid? The answers to (a) and (b) are comparatively straightforward: the charges are more or less subject to the "market place." Too high charges bring remedial competition. On the other hand there is no such compensatory mechanism acting to insure that all legitimate costs are charged. In the long run there is--lower output by authors and publishers. But for the short term there exists no mechanism to charge for their contributions, to collect or to transmit such charges. Therefore, subject to the market place, the above charges ignore such contributions. A second question arises: by how much would the present range of charges have to be increased (if at all) in order to include this provision, assuming that the client agreed as to its fairness? One answer might be: if such a mechanism were brought into existence, then the royalty charge would also become subject to the market place. It would automatically become self-adjusting. Such a charge could not easily become a large fraction of the copying cost (except in the case of free copies); perhaps on the average not more than 10 per cent of the cost of copying. Nor could it become too small and still retain its effectiveness.

The question of how to provide a "free market" for copying royalties is a key area for further investigation of copyright.

Query 37. What per cent of the items copied are copyrighted materials?

Table XXXVII shows the estimates of the per cent of copyrighted material copied by the 66 libraries. If the median for each class is weighted by the number of libraries reporting (44 in all), the mean estimate for these libraries is that 59 per cent of the material copied is copyrighted. This compares with 54 per cent in the six-library sample. As was shown in the study of that sample, the per cent of copyrighted material copied varied widely from library to library. Therefore the 59 per cent figure should be regarded as an estimated mean with a rather wide dispersion for individual libraries.

This completes the analysis of the 66-library questionnaire-survey undertaken in conjunction with the six-library study. The main results of Section IIA and IIB are briefly summarized (following those of Section I) in the concluding Section III of this chapter.

Section III

Conclusions and Recommendations

A. Attitudes, Practices and the Copyright Law

Conclusions

(1) Most librarians and information center managers believe the making of a single copy of an article from a periodical or the chapter of a book is not an infringement and that it falls within the area of fair use. Other prevelant beliefs are that no infringement of copyright occurs if no profit results from the transaction; if it is for the purpose of research or education; if the copyrighted work is published by a nonprofit professional society, or if the copyrighted work resulted from government-supported research.

(2) The most commonly-cited authority for these beliefs is the report of the Joint Libraries Committee on Fair Use in Photocopying, 1961: "Fair Use in Photocopying: Report on Single Copies."

(3) These beliefs have led to practices which have resulted in a very large amount of single-item or unit copying, and little or no multiple copying by libraries.

(4) The law in general, despite the fair use principle, prohibits single-copy reproduction without the express permission of the copyright owner.

(5) For all practical purposes copyright law has neither a promotional nor a restrictive effect on single-copy reproduction. Effective access and dissemination occurs regardless of copyright law in the areas of the social, natural and physical sciences, technology, general scholarship and education.

Recommendations

(1) The proposed National Commission on New Technological Uses of Copyrighted Works should, in the national interest, closely examine and evaluate the single-copy phenomenon in the light of the constitutional clause "To promote the progress of Science and useful Arts, by securing for limited Times to Authors and Inventors exclusive Right to their respective Writings and Discoveries." It should seek to determine if the instrument of copyright is effectively promoting progress in the areas of the social, natural and physical sciences, technology and education.

(2) The National Commission should investigate whether it is in the national interest to specifically permit the transferee to make a single copy of any part of a copyrighted work, and if so, to decide if this exemption to infringement should be limited to particular institutions, and particular conditions and purposes. If from its deliberations it should decide that the current practices of the transferee are contrary to the national interest, it should prepare a set of recommendations to the Congress as to how the law can be implemented and enforced.

B. Fair Use

Conclusions

(1) Fair use is not a useful, effective guideline for making a priori judgments as to whether or not copies may be made of a part of a copyrighted work in a working environment. It provides no protection to the copyright owner because there is no effective control. It has become a euphemism for single-item copying.

(2) The limitation of copying to single copies by the library and information center is an economic limitation. Budgets, available machine time and available staff time control copying at the library and information center. In these environments neither the copyright law nor the fair use concept directly limit copying.

Recommendations: None.

C. Aborted, Limited or Curtailed Library Services because of Copyright Law

The copyright law has not been restrictive and has not curtailed library and information services in the past. It is a potential impediment chiefly to information networks (document transfer by television, telephone, facsimile, etc.) mainly because of the high degree of public exposure and public knowledge of these networks. The more immediate effect of the networks will be to cause more extensive duplication of copyrighted material because of the identification of wanted material by the automatic searching and alerting services of the networks. The sole purpose of these programs is to identify material which if selected by the user will be transmitted as a copy or copies.

Recommendation

Some equitable system of access, permissions and payments for the use of copyrighted material that conforms with the objectives of copyright law and with its statutory provisions should be developed.

D. Clearinghouse Concept

Conclusion

A clearinghouse for access, permissions and payments for use of copyrighted materials is acceptable or would be acceptable to the user if well designed and fair. It must have user and owner participation in its managemwnt.

Recommendation

Investigate, design, test and evaluate a clearinghouse for the extended use of copyrighted material and based on the principle of owner-user control.

E. Economics of Library Copying

The material in sections IIA and IIB is possibly the first extensive study of library copying with special reference to copyright economics. Out of it the reader may draw some conclusions which were more or less to be expected--and a few new ones. The reader is therefore urged not to accept those listed below in lieu of but in addition to his reading of sections IIA and IIB.

Conclusions

(1) The published materials copied in U.S. libraries are produced by comparatively few publishers--on the order of 1,000. A much smaller number (about 5 per cent) supply a disproportionately large part (about 40 per cent) of the materials copied.

(2) Nonprofit publishers of materials copied in U.S. libraries outnumber for-profit publishers by about 3 to 2.

(3) The published materials copied in U.S. libraries are chiefly from journals, next from books, least, from all other forms combined. Journal copying dominates book copying almost 9 to 1 by numbers of titles, and nearly 4 to 1 by numbers of page-exposures. Books dominate "other" forms copied about 18 to 1 by titles, and nearly 4 to 1 by exposures.

(4) The particular vehicle (or form) of a published document (journal, book, report, etc.) is apparently not critical in determining the average volume of copying from this form, while average length of item copied is critical. That is, there seems to be an inverse ratio (independent of form) between average number of pages copied and average number of pages per item copied.

(5) Articles from journals are nearly always copied as a whole; books are nearly always copied in part only.

(6) The average numbers of pages copied, arranged by year since copyright, tend to follow exponential loss or "decay" curves. They vary somewhat from library to library, and are explainable as usage curves. The stress on recency (rate of decrease) is subject-sensitive and mission-sensitive. It is greater for the sciences than for the humanities.

(7) Copying has provided a reliable new means for the measure of usage. According to this, the most recent material and therefore the most available is the most copied.

(8) Also, copying-curve data may be a reliable new data-bank for engineering design of information dissemination systems.

(9) The ratio of nonprofit publications copied in U.S. libraries to for-profit publications is nearly 2 to 1 for journals, and nearly 1 to 2 for books. That is (see (3), above), U.S. library copying is mainly from journals, and mainly from nonprofit journals; while library book copying is secondary, and is mainly from for-profit books.

(10) There is a preponderance of copying from materials containing scientific and technical subjects, as against other subjects.

(11) There is a preponderance of domestic (U.S.) over foreign materials copied.

(12) Several independent estimates of total annual copying of published material tend to converge around the following estimates: 2 billion pages copied in the U.S. in 1967, with a forecast of 3 billion pages in 1969.

(13) The ratio of copied copyrighted material to copied published material varies widely from one library to another. Overall, it is about 55-60 per cent. In selected subject areas it is much higher, or lower. It appears subject to economic incentive: a higher ratio would presumably follow if a mechanism existed for effective collection and distribution of copying royalties. Estimate for 1967: over 1 billion copied pages of copyrighted material.

(14) The number of multiple copies of the same document made for the same client by U.S. libraries is almost negligible. Multiple copies are (in general) not supplied by U.S. libraries, while single copies are supplied freely. One-to-one copying--one copy, one client--dominates U.S. library copying.

(15) U.S. library copying is dominated by xerography, with silver halide photography second, all other methods third. Ratios are about 7 to 2 to 1.

(16) The charges per page by U.S. libraries to clients form a "copying charge curve" which starts at zero (over 20 per cent make no charge) and peaks at 6¢ to 10¢ per copy in a range extending both down and considerably higher. The shape of this curve and peaking range could change with technology, and alter copyright and publishing economics. It could also change with appearance of a "free market" for copying royalties provided by a clearinghouse.

Recommendations

The recommendations, following the conclusions, range widely in scope. Some conclusions suggest investigations applicable to information science in general; others to specific measures affecting the future of copyright. What is considered important depends on the reader's viewpoint. The recommendations made below may perhaps be roughly divided into three classes:

(1) To confirm and explore the factual findings (numbers, reported percentages, ranges, special conditions, assumptions made in reaching estimates, etc.).

(2) To exploit relations found, such as the copying-usage curves, the possible length-volume copying relation, or the approximate distribution of charges-per-copy to clients.

The copying curves, for example, can be used to design information storage and dissemination systems which incorporate an average holding cut-off date. This applies especially well to libraries connected into networks. The network can adopt any cut-off holding date required simply by connecting into itself at least one archival library to hold materials older than the cut-off date or dates. The copying curves can be used to design a viable copyright clearinghouse system--with convenient, realistic cut-off dates for contractual coverage, protection, etc.

(3) To investigate phenomena not sufficiently covered, such as multiple copying, its locale, if it exists, and the need for it; or the sensitivity of copying curves to subject- and library-mission. Another investigation might undertake preliminary design of a solution to the problem of copyright and photocopying and data processing which would meet certain requirements, e.g., (a) permanently protect the user and his agent (such as the librarian) against infringement suit; (b) provide the copyright owner an equitable return for copying and other conversion of his copyrighted works from one format to another; and (c) permit full use of modern technology, including unlimited multiple copying (and facsimile transmission, computer processing and conversion of copyrighted works from one format to another.) For the general welfare--to improve communication by copyrighted messages--possibly the last recommendation is the most urgent.

NOTES

Chapter 5

1. A number of the questions included in the 66-library survey were not pertinent to the specific objectives of this study, but were included in anticipation of further inquiries and analysis by CICP. Thus, while 37 tables of correlation were prepared (numbered by Roman numerals I - XXXXIII to correspond with responses that could be correlated), only those tables referred to in this study are included in Appendix C. As the objective of this study is a part of a larger objective and some of the correlations will be used in other analyses which may later be combined with this one, it was decided to keep the numbering system inviolate.

2. "First Annual Report by CICP Study Group," Committee to Investigate Copyright Problems Affecting Communication in Science and Education, May 10, 1960, reprinted with addenda December 13, 1961, Bulletin of the Copyright Society of the U.S.A., Vol. 10, No. 1, October, 1962. (Clearinghouse for Federal Scientific and Technical Information Number PB 177000.)

3. Laurence B. Heilprin: *Effects of Copyright and of Journal Economics in Communication in Science and Education*, A.S.E.E. Annual Meeting, East Lansing, Michigan, June 22, 1967.

4. Wall Street Journal, June 13, 1963, p. 24, col. 2.

5. "The Impact of Technology on Publishing," Arthur D. Little. Report written 1965-66 in *An Economic-Media Study of Book Publishing* for the American Textbook Publishers Institute and the American Book Publishers Council, p. 16.

6. *Characteristics of Professional Scientific Journals, 1962*. D.T.H. Campbell et al. Herner & Company, Washington, D.C., April 30, 1964, p. 21. PB 166 088.

7. Herman B. Fussler and Julian L. Simon, *Patterns in the Use of Books in Large Research Libraries*; Council on Library Resources Grant 64: The University of Chicago Library, 1961.

Appendix A

COMMITTEE TO INVESTIGATE COPYRIGHT PROBLEMS AFFECTING COMMUNICATION IN SCIENCE AND EDUCATION

FIRST ANNUAL REPORT
BY CICP STUDY GROUP

Reprinted from the Bulletin of the Copyright Society of the U.S.A., Vol. 10, No. 1, October 1962

Washington, D.C.
May 10, 1960

Reprinted with Addenda
December 13, 1961

FOREWORD

This report by the Study Group of the Committee to Investigate Copyright Problems Affecting Communication in Science and Education (CICP) covers the year from the appointment of the Study Group (June 1959) to the time of writing (May 1960).

The report consists of three parts:

I. The Problem As We See It Now

II. Proposed Solutions to the Problem of Reproduction of Copyright Material for Nonprofit Scientific and Educational Use

III. The Optimum Solution?

The three parts represent a continuous development and summary. They show the progress in thinking from just after the first CICP meeting, May 19, 1959, to just before the second meeting, May 18, 1960.

The year's work by the Study Group may be summarized as follows. During this period through fact-gathering, discussion and reflection the nature of the problem and proposed solutions became better defined. A point of view was developed as to what an adequate solution should contain (Part I). In the light of this viewpoint a set of specifications was drawn (Part I). The specifications enabled analysis of the proposed solutions (Part II), and (assuming the analysis valid) swept much of the ground clear (Table I, Part II; and Part III). For many of the proposed solutions were found to be lacking in essential features. There remained several solutions of high merit. These it was proposed to use in synthesizing an "optimum solution." A beginning has been made on it (Part III).

The chairman takes responsibility for the report because, although it has been reviewed by some members of the Study Group, there has not been time for a fourth Study Group meeting. The report is submitted in the hope that the members of CICP will contribute their criticism, suggestions and guidance as to the next steps. From the discussion on the report should emerge a plan for the second year of CICP.

The Study Group wishes to acknowledge the strong support given it by the officers of CICP. Dr. Howard A. Meyerhoff, President; Mr. Joseph A. McDonald, Vice President; and Mr. Gerald J. Sophar, Secretary. It also wishes to gratefully acknowledge support in many forms, ranging from professional advice to the supply of services and facilities: the Copyright Office through Mr. Abe A. Goldman, Chief of Research; the Department of Commerce, through Mr. Horace Hart, Director of Printing and Publishing Industries Division; the Joint Library Association, Special Library Association and Association of Research Libraries Committee on Copyright, through Mr. Edward G. Freehafer, Director, New York Public Library, and Mr. Julius Marke, Law Librarian, New York University; the Council on Library Resources, through Mr. Verner W. Clapp, President; the Microcard Corporation, through Mr. A.L. Baptie, Manager; the Eastman Kodak Company, through its Duplication Services and its Legal Department; the International Business Machines Corporation, through its Systems and Research Department under Dr. George W. Petrie.

Respectfully submitted by the CICP Study Group

L.B. Heilprin, Chairman

Washington, D.C.
May 10, 1960

Members of CICP Study Group

As of May 1, 1960

Mr. Robert W. Hampton	Eastman Kodak Company
Dr. Laurence B. Heilprin, Chairman	Council on Library Resources
Mr. Charles A. Madison	Henry Holt and Company
Mr. Daniel Melcher	R.R. Bowker and Company
Mr. Eugene Power	University Microfilms
Mr. Thomas A. Schmid	Association of American University Presses
Dr. Robert C. Snider	National Education Association
Dr. I. Albert Warheit	International Business Machines Corporation
Dr. Issac D. Welt	National Academy of Sciences

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Dr. Howard A. Meyerhoff, President	Scientific Manpower Commission
Mr. Joseph A. McDonald, Vice-President	American Bar Association
Mr. Gerald J. Sophar, Secretary	Microcard Corporation

Members of Subcommittee to Draft "Optimum Solution"

Mr. Robert W. Hampton, Chairman	Eastman Kodak Company
Mr. Joseph A. McDonald	American Bar Association
Mr. Daniel Melcher	R.R. Bowker and Company
Dr. Laurence B. Heilprin	Council on Library Resources

I. The Problem As We See It Now

At the first CICP meeting, May 19, 1959, we were concerned with an effect of the operation of copyright law, which could scarcely have been predicted when the law was passed in 1909. In science and education communication takes place largely by journal article, book and audio-visual material (to all of which we shall simply refer as "published works" or "publications"). Because of this fact the most common method of dissemination, after primary publication, is to copy. Single copies are often needed by the scholar, research person or teacher. In increasingly many cases multiple copies are required. This is particularly true in the conducting of classes, in drafting scientific and scholarly reports, and in operation of information storage and dissemination systems now appearing on the scientific horizon. A large fraction, on the order of 50 per cent, of scientific and educational publication is copyrighted. For these publications it is necessary to obtain the copyright owner's consent before copying. This practice has not been strictly observed for single copies made for nonprofit, scientific or educational purposes. It has been well observed in the case of multiple copies. Success in multiple copying has been notoriously lacking. A certain fraction of the owners refuse or fail to respond to requests. These exceptions are important enough to nullify many scientific programs, especially large-scale programs requiring the gathering of many sources. Other projects which suffer are bibliographies and collections, the chief value of which lie in their completeness. In many cases, even when consent is finally given (with or without royalties), the time, effort and resources needed to secure the permission are prohibitively large. The user prefers not to copy rather than to risk suit for infringement. In effect the operation, not the intent, of the copyright law has often been to impede communication in science and in education. The direct connection between science and education and the national welfare renders the problem important to solve.

In the proceedings of last year's CICP meeting, and more fully in reference I of section-1, one of our main concerns was to disengage the purely legal aspects of this problem from the non-legal economic and social aspects. This was accomplished by looking at copyright from a new point of view - considering it as a message. From the scientific viewpoint it can be seen that the economic value of messages in the arts and in the sciences differ. Protection for messages in the arts is effective under copyright law. For messages in the sciences, where value resides in the meaning rather than in the form of the message, copyright protection is poor. The law protects embodiments of ideas, not ideas. Nevertheless copyright is the only way in which scientific publishers can protect their intellectual property. Thus, the scientist or educator (we will use "scientist" for both) finds himself in conflict. The conflict is between himself in his professional role and in his role as publisher. Because of the lower economic value of his messages, the scientist has to undertake most of his own publishing. (The scientist is rarely interested in financial return from his contributions as an author, as he receives his income in other ways.) As a scientist he needs more freedom to copy, especially to make multiple copies. As a publisher he needs assurance of revenue for publication. Since it is a national principle to make enterprises "stand on their own feet," the revenue must arise from the publication. Hence, any reduction of circulation brought about by copying, without compensatory revenue, weakens scientific communication at the publishing source.

It is important to see that the conflict is not between publishers, on the one hand, and scientists on the other. It is an internal conflict, between the scientist-user, and the scientist-publisher or his agent who is supplying the scientist-user with publications. On the surface they are not struggling for the same things. The scientist-publisher struggles to retain his grip on revenue through copyright. The scientist-user struggles for freedom to create and teach. With his advancing copying techniques he is slowly breaking the grip of the publisher. Neither is the gainer, for both serve science.

If this analysis is correct then it is apparent that the new element in the problem, which takes it partly outside the immediate problem of copyright, is the support of scientific and educational publication. This is really at the bottom of the interference with scientific communication by copyright. It suggests that in any solution this must be an important element. The other equally important element is that the scientist must be in a position to obtain multiple copies when he needs them, at speeds consistent with those required in modern research and teaching.

At the 1959 CICP meeting the dilemma was seen to be resolvable in two principal ways. The first was through some change in the law. Since this would involve congressional hearings and possibly a long time before a satisfactory solution could be worked out, and since there was present an element which seemed to lie outside of copyright, it was the general opinion that if possible some other solution should be sought. The second type of solution was to make some administrative change, operating under the law. The most promising type of administrative change was to supply an additional mechanism now lacking in the economics of our copyright system. It would be a mechanism whereby the copyright owner can grant licenses to copy his publications to some agency, provided the copying was performed for nonprofit, scientific or educational purposes. Other rights would be reserved. In return, the copier would pay royalties which would reach the copyright owner through the agency. This mechanism, a combined agent and clearing house, would eliminate delays, permit multiple copying and support scientific and educational publication.

During the year since the meeting the problem has been better defined. The basic situation remains the same, but a number of specifications have been set up which enable comparing the various proposed solutions on an objective basis. These specifications can be divided into those that are (1) necessary and (2) desirable. Their relative importance beyond this point has not been evaluated. One of the functions of the 1960 meeting will be, it is hoped, to consider whether all important specifications have been included. They are:

Necessary

1. The solution must provide copies promptly - that is within a time entirely suitable for the needs of the scientist, educator, scholar or student. This time may vary from a few minutes to a few hours or days. The delay interposed by requests for permission to copy should not be prohibitive, or in any way burdensome, as in the past.

2. The solution should provide revenues which support scientific and educational publication. This support need not be confined to compensation for loss of circulation, but could be a main source of income.

3. The solution should provide multiple copies. The expanding need for multiple copies in all fields of science and education cannot be met by a solution which provides only single copies.

4. The solution should remove the threat of infringement suit for copying for nonprofit scientific or educational purpose, where the suit is based only on economic loss of intellectual property. Suits for other purposes would not be affected.

5. The solution should not reduce the constitutional rights to their intellectual property vested in copyright owners.

6. All individuals or groups interested in the solution should participate in it beneficially.

7. The solution should not adversely affect the rights of foreign publishers and copyright owners entitled to protection under the Universal Copyright Convention (UCC) to which the U.S. is signatory.

8. The solution should require no legal or administrative measures which are highly impractical to carry out. For example, the solution should not require that the administrators of the Copyright Law, or any agency involved in the solution, distinguish between copyrighted scientific or educational works and other copyrighted works. To have to define and weigh the ideas in copyrighted works would be operationally unfeasible.

Desirable

9. The solution should not require a long time before it can be put into effect. For example, solutions which require congressional changes in the copyright law that may be controversial and may require extended hearings over several years before passage, are not as desirable as solutions free of this preliminary.

10. The solution should be practical to initiate. Setting it into operation should not require prohibitive effort.

11. The solution should be practical to administer.

12. The solution should be practical to alter. For example, any legal statute is less easily altered than a purely administrative measure, and to the extent that it is less flexible, is not as desirable.

Underlying every solution is the assumption that copying is for nonprofit scientific or educational purposes. Copying for profit would presumably be arranged for as in the past by private agreement between copier and copyright owner.

We are now in a position to survey the possible alternative solutions. These are given in Section II. At the end of that section they are compactly summarized in Table I, so that they can be compared. In this Table "1" signifies that the specification is substantially met, "O" that it is substantially unmet, "?" that there is some doubt as to the classification.

Further discussion of the results is given in Section III.

(1): Copyright as Communication, L.B. Heilprin, June 1959

II. Proposed Solutions to the Problem of Reproduction of Copyright Material for Non-profit Scientific and Educational Use

A. Solutions Based on a Change or Changes in the Law

1. Do nothing - "laissez faire," for fear of even more restrictions on copying if the law is changed and limits are accurately "spelled out."

   Pro: There is some substance (for instance, the way in which the United Kingdom Copyright Act of 1956, Section 7 developed) to the fact that the law if rewritten may become more restrictive than ameliorative.

   This alternative involves the least present effort.

   Some satisfactory results are attainable at the present time under "laissez faire."

   Con: Does not face up to the main problem the solution of which is being attempted.

   The situation is probably going to become worse than it is now.

   Copyright infringement suit remains a threat.

2. Extend the Principle of "Fair Use" to Statutory Law. Fair use is recognized by the courts. It is tacitly assumed that the principle applies to nonprofit single copies of copyrighted works. This point has not been directly tested. The principle may not apply to copying of an entire work.

   Pro: Statutory recognition of this principle would solve one problem - the right to make single copies - which now worries many who need to make copies for non-profit purposes. It would relieve conscientious librarians as to the propriety of supplying single copies, and should enable scientists and educators to work more effectively at individual tasks.

   Con: The concept of fair use probably could not go beyond single copies. Therefore it would not solve the problem of large scale, multiple copying for research or educational undertakings. Examples of problems which would not be solved are the making of groups of reprints which cut across a large field or several fields, as well as all systems depending on multiple copying of the item stored.

Recognition of this principle does not solve the main economic reason for scientific copyrighting - need for support of scientific publications. No alternative royalty or revenue is provided the scientific publisher or author.

3. Statutory Licensing of Scientific and Educational Copyrighted Works

Statutory licensing is at present recognized in the recording of copyrighted music only. If a musical work is copyrighted it may not be reproduced without permission. But, if permission is given to anyone to make a recording, anyone else may make a recording upon payment of a fee set by law. Extension of this principle to copyrighted scientific and educational works could have two forms, a "strong" form and a "weak" form.

Weak: Copyrighted scientific or educational work cannot be reproduced without permission. But, if permission is given to anyone to copy, anyone else may reproduce the work for scientific or educational purposes upon payment of a royalty, set by law, to the copyright owner.

Pro: Such a law would permit single and multiple copying.

It would provide royalties to publishers of scientific and educational publications.

Con: It is not practically feasible to distinguish what material is scientific or educational from other copyrighted material. This would require individual examination and possibly close study of each copyrighted work to determine whether it is scientific or not, educational or not. Also, the law would probably give rise to much litigation, and need for definitions which in many cases would be borderline and difficult.

The provision is against U.S. tradition in that it reduces constitutional rights to property. It deprives the owner of control over who may copy his work and in what form; and amounts to taking property now vested in the owner, by eminent domain.

Fixing the rate of remuneration in a manner satisfactory to all owners might be difficult.

Since the statute would fix the rate of remuneration, there might be created an inflexible situation hard to rectify later.

There might be some question whether the principle would be applicable to foreign publications entitled to protection in the U.S. under the UCC.

There would still be needed a mechanism for collecting royalties and for distributing them. Without such a mechanism there would still be (a) discouragement from copying because of the time and effort required for payment, and of the need to be sure that permission had been given at least once, and (b) a tendency to disregard the payment of royalties not because of dishonesty but because of the time and effort needed for contacting the copyright owner.

Strong: If any scientific or educational work is copyrighted anyone may reproduce it for scientific or educational purposes upon payment of a royalty at a legally fixed rate to the copyright owner.

Pro: The same as for the "weak" form.

The strong form removes the need to determine that the right to copy has already been granted once.

There would be greater simplicity in carrying out projects which are based upon copying, since all material covered by U.S. copyrights in science and education would be uniformly accessible for copying.

Con: The same as in the "weak" form.

The deprivation of property rights would be more absolute, since in the "weak" form the owner could still exercise some control if he denied everyone the right to copy.

4. Enact a New Provision in the Coming Revision of the U.S. Copyright Law, Providing for the Needs of Science and Education. Specifically: permit unlimited multiple copying of copyrighted scientific or educational works, for nonprofit scientific or educational purposes.

   Pro: Such a provision would protect communication in science and education made via domestic copyrights.

   The simplicity of the law would stimulate needed copying, and provide the most immediate measure for relieving the copyright problem of communication in science and education.

   Since copying would be free as long as it was performed for nonprofit scientific or educational purposes, there would be no need for a mechanism for collection and distribution of royalties.

   Con: Unless the law were to provide for unlimited free copying of all copyrighted works, provided only the purpose were nonprofit scientific or educational, there would be need to distinguish the nature of the material, in addition to the purpose for which copying was performed. This is the same objection as that to statutory licensing: it is not practical to distinguish between scientific and non-scientific, educational and non-educational copyrighted works.

   If, on the other hand, the law were to permit free copying of all copyrighted works, providing the purpose were nonprofit, educational or scientific, this would weaken the purpose of the copyright law and reduce the incentive to copyright not only in the sciences, but in the arts. Even if a line could be drawn, e.g., between use for educational purposes (for instance, self-education) and use for purely recreational purposes, such a line could hardly be drawn without much litigation.

   This provision would deny the publisher or owner any remuneration for this type of use. It would provide no support of scientific publications and would nullify the chief economic reason for copyright protection of scientific publications.

The effect might go further: free copying might so reduce the income of scientific and educational publishers as to diminish or eliminate their contributions to scientific and educational communication.

The same question raised under Statutory Licensing as to whether this could apply to foreign publications under UCC, arises here even more strongly.

This provision would probably meet legislative opposition because of the serious implications for hitherto protected intellectual properties.

Even if it were finally accepted, this solution would probably take a long time to consummate.

B. Administrative Solutions

1. Voluntary Agreement Among Copiers and Copyright Holders, Like in the "Law Merchant," to Permit Single Copies for Nonprofit Scientific or Educational Use.

Pro: A voluntary agreement might be readily accepted by publishers and might become accepted on a worldwide basis. In fact, some agreements of this nature have been formed. Examples: the "Gentlemen's Agreement" of 1935 in the U.S.; and the "Fair Copying Declaration" in Great Britain.

Among ethical users such an agreement would probably be well observed.

An agreement is flexible enough for adjustment.

A voluntary, informal agreement would take less trouble to set up and less time, than would a more formal arrangement among leading copying institutions and publishers.

Con: Such an agreement might not include all publishers, so that copyright infringement suit remains a threat.

Does not solve the problem of large-scale multiple copying.

Does not contribute economically to the support of scientific or educational publications.

2. Agreement on a Contract Basis, Between U.S. Publishing Industry and Groups of Users, to Permit a Limited Number of Multiple Copies, and Payment of Royalties (Modeled on German Contract).

Pro: Permits multiple copying to signatories.

Pays royalties to publishers and authors.

Involves short term (Germany - 3 years) for copyrights.

Annual settlement and paying in advance reduces accounting.

Con: Unless open to all, is not sufficiently inclusive of users. Should include all parties interested, e.g., individual scientists, educators, as well as all scientific and educational institutions.

Not sufficiently inclusive of publishers, and danger of copyright infringement suit remains.

3. Nonprofit, Privately Operated Clearing House for Granting Paid Permissions to Copy Copyrighted Scientific or Educational Works for Nonprofit, Scientific, or Educational Purposes, on a Large Scale; and for Administering a Paid Method of Similar Copying on a Small Scale.

(a) Statutory System. (Everything that is copyrighted in designated classes is in the system.) This is the same as I3 (Statutory Licensing) with added clearing house. Pro and Con are the same, except that this would provide a mechanism for collecting and distributing the royalties. Thus the system with statutory licensing and a voluntary clearing house would be an improvement over statutory licensing only.

(b) Voluntary System. (Copyright owners, mainly scientific and educational publishers, participate by mutual consent.)

Pro: Permits both large scale multiplication and small scale by all types of users, individuals, teams or institutions.

Supports scientific publication.

Retains private control over copying of copyrighted scientific and educational works for other than nonprofit purposes, e.g., control over non-ethical use.

Voluntary agreement on a scale of royalties has greater flexibility than a scale provided by law.

Permits publishers to make trial of system without irrevocable decision.

Foreign publishers could participate or not, as they elected, without affecting the UCC.

The entire operation would be conducted under existing or revised copyright laws and would require no special treatment of any copyright owner under U.S. law.

Con: A voluntary system would not guarantee participation by all publishers. The utility of the system would depend upon success in enlisting a large majority of publishers of scientific and educational works.

Getting voluntary participations from scientific and educational publishers would be a large operation.

Administering a clearing house would be a large operation.

4. Ad Hoc Solutions for Publishers

A number of arrangements could be worked out by the publishers themselves to supply promptly all copies ordered, in return for remuneration. Examples:

(a) Publisher supplies photocopies and/or reprints on demand.

(b) Publisher licenses duplication of his copyrighted works by:

(1) Libraries and commercial copiers.

(2) Subscribers.

Pro: All such arrangements operate under the law and require no change.

All have the flexibility of private enterprises.

Con: All such enterprises lack the generality of a national solution. Science and education are of national concern, and the Copyright Law is of national scope. Other things being equal, the most satisfactory solution is of the most general nature, with all interested groups participating.

If the publishers were to institute a separate, large scale private organization for collection of royalties and for dissemination of copies of copyrighted works, this would approach solution II 3, with the exception that it might not be nonprofit as to administration costs. Even if it were conducted as a nonprofit organization, however, because of the public interest in the relation of copyright to science and education it is probable that an institution conducted by publishers only would not solve the problem as well as one conducted under the sponsorship of all interested groups.

	NECESSARY							
SOLUTIONS * **	Provides Copies Promptly	Supports Scientific or Educ Publication	Provides Multiple Copies	Removes Threat Infringement Suit	Not Reduce Rights to Intellectual Property	All Interested Groups Benefit in Solution	Not Contrary UCC	Requires no Distinction Sci & Ed Works and Other Copyrighted Works
A Changes in Law								
(1) Do Nothing	0	0	0	0	1	0	1	1
(2) Fair Use - Statutory	1	0	0	1	1	1	1	1
(3) Statutory Lic.								
Weak	0	1	1	1	0	1	0?	0
Strong	1	1	1	1	0	1	0?	0
(4) Stat. Free Copying Sci & Educ								
(a) All copyrighted works	1	0	1	1	0	0	0	1
(b) Sci & Educ only	1	0	1	1	0	0	0	0
B Admin. Solutions								
(1) Voluntary Agreement Single Copies	1	0	0	0	1	0	1	1
(2) Contract Agreement Multiple Copies	1	1	1	0?	1	0	1	1
(3) Nonprofit clearing House								
(a) Statutory	1	1	1	1	0	1	0	0
(b) Voluntary	1	1	1	0?	1	1	1	1
(4) Ad Hoc Solutions Publishers	1	1	1	0	1	0	1	1

Table 1-a: Specification Analysis of Proposed Solutions

* 1: Condition substantially met 0: Condition not substantially met ?: Doubtful

** All Solutions: Copying is for nonprofit scientific or educational purposes.

SOLUTIONS * **	DESIRABLE			
	Short Time Before Starting	Practical to Initiate	Practical to Administer	Practical to Alter
A Changes in the Law				
(1) Do Nothing	1	1	1	1
(2) Fair Use - Statutory	0	1	1	0
(3) Statutory Licensing Weak	0	0	0	0
Strong	0	0	0	0
(4) Statutory Free Copying Science and Education				
(a) All copyrighted works	0	1	1	0
Science and education only	0	1	0	0
B Administrative Solutions				
(1) Voluntary Agreement Single Copies	1	1	1	1
(2) Contract Agreement Multiple Copies	1	1	1	1
(3) Nonprofit Clearing House				
(a) Statutory	0	0	0?	0
(b) Voluntary	1	1	1	1
(4) Ad Hoc Solutions Publishers	1	1	1	1

Table 1-b: Specification Analysis of Proposed Solutions

*1: Condition substantially met 0: Condition not substantially met
?: Doubtful

** All solutions: Copying is for nonprofit scientific or educational purposes.

III. The Optimum Solution?

If the important specifications for a solution to the problem of copyright and scientific communication have been included, then we may draw certain conclusions from Table 1. In the first place, there is no change in the copyright law which, without other measures, would remedy the situation. The closest approach is statutory recognition of "fair use." This measure would still leave two important problems unsolved: multiple copies, and support of scientific and educational publication. On the other hand, it may appear desirable to CICP to endorse statutory fair use. This should strengthen any other measures taken, without interfering with their effectiveness.

For an effective solution it appears that we must look to some administrative measure or measures. We can rule out voluntary agreement, as it fails to meet several of the principal specifications. Contract agreement and ad hoc publishers' solutions appear to have identical specification patterns. There is much to recommend them. The weakest points of both are that not all of the important publishers may join in the operation, and that consequently (1) there remains the threat of infringment suit, and (2) the solutions are open to criticism that they are not truly general, as any solutions must be which underlie the welfare of science and education. But they do represent apparently workable solutions, and deserve further study.

We may rule out the nonprofit clearing house with statutory licensing for a number of reasons, most of which are the same as those for statutory licensing (I-3). This leaves the nonprofit clearing house with voluntary membership. As shown by the score, this solution has the highest number of specifications met, all except the removal of threat of infringement suit. As stated in Section II, the success of the agent-clearing house solution would depend on how many publishers (and possibly individual authors) of scientific and educational works join in it. If the majority were to join then many others would probably also join for purely economic reasons: they would have nothing to lose by so doing, and would have the opportunity to share in the royalties. In the same way, the larger the fraction of publishers and authors which participate, the smaller the threat of infringement suit. Thus the success of the clearing house solution resembles an "all or none" process. If the number of participants is above a certain threshold, the process does not take place. One of the estimates to be made is this threshold fraction of publishers in science and education, which would assure success with high probability.

The clearing house solution is one for which there are precedents, and which is within the capabilities of the data-processing industry. It is a bold, massive solution requiring both the large-scale techniques at which Americans are adept, and the voluntary concerted action of private groups for which Americans are equally noted. An institution of the kind contemplated would have a special status. For it would support the constitutional principle of disclosure of intellectual works, the creative efforts of scientists and teachers, and their communications.

The question arises: is this the optimum solution? Or is it possible to incorporate features which may be found elsewhere, including the other solutions discussed here, to produce a solution better than any yet proposed? In the belief that the latter might prove to be the case, your study group decided to carry on in parallel with the analytic work of the study group some synthetic work looking toward the earliest possible solution of the problem. If possible a draft was to be prepared in time to lay it before the CICP members at the 1960 meeting. Accordingly one of the study group members doubly qualified by knowledge of the problem and of the law was asked to initiate such a synthesis by heading a subcommittee to draft it. This was carried out. The draft follows immediately after these Addenda.

ADDENDA

The following notes are added at the time of reprinting the above, to bring the CICP members up to date on major developments in our field of interest, and to request their participation (in one case) by reading and commenting on one of the enclosures.

1. The draft referred to above (and appended) is a separate, preliminary investigation made for the Study Group, in furtherance of the ideas advanced in ref. 1, p. 6, and in the annual report. This draft study has aroused much interest on the part of individual members of CICP, but CICP has not committed itself for or against many of the ideas contained therein. The author, a working member of the Study Group, has presented many of the most controversial of the issues raised by the Study Group, particularly the legal aspects of establishing a Copyright Clearing House. As part of CICP's effort to obtain informed opinion on the feasibility or desirability of such a project, we ask you to reread this work carefully and give us your analytical comments. Bear in mind that the author was not asked to address himself so much to the economic and organizational problems as to those of his greatest competence, namely, the legal problems. Please communicate with the Committee by sending your comments to Dr. Howard A. Meyerhoff, President, Committee to Investigate Copyright Problems Affecting Communication in Science and Education, and Executive Director, Scientific Manpower Commission, 1507 M Street, N.W., Washington 5, D.C.

2. The Joint Libraries Committee on Fair Use in Photocopying Report on Single Copies has been issued. This committee, also called the Freehafer Committee, endorsed the principle "that it be library policy to fill an order for a single photocopy of any published work or any part thereof." The full text can be found in: Special Libraries 52, No. 5, May-June, 1961, pages 251-5. See comment following 3, below.

3. The U.S. Copyright Office has, in its Copyright Law Revision of July, 1961, proposed a revision to the Copyright Statute which specifically recognizes the doctrine of "fair use." It would permit "a library to make a single photocopy of material in its collections for use in research,"--subject to certain restrictions. Specifically, the recommendation made is,

> The statute should permit a library, whose collections are available to the public without charge, to supply a single photocopy of material in its collections to any applicant under the following conditions:
>
> (a) A single photocopy of one article in any issue of a periodical, or of a reasonable part of any other publication, may be supplied when the applicant states in writing that he needs and will use such material solely for his own research.

(b) A single photocopy of an entire publication may be supplied when the applicant also states in writing, and the library is not otherwise informed, that a copy is not available from the publisher.

(c) Where the work bears a copyright notice, the library should be required to affix to the photocopy a warning that the material appears to be copyrighted.

The full text can be found in Copyright Law Revision, Report of the Register of Copyrights on the General Revision of the U.S. Copyright Law, July 1961, printed for use of the House Committee on the Judiciary. See pp. v and 25-26. See also a brief article by J. Donovon, in Publishers' Weekly, October 9, 1961, pp. 24-27. Special Libraries, November 1961, contains several articles. One of them, A Publisher Looks at Copyright, by D. Dorward, comments favorably on the work of the CICP.

Comment: It should be noted that this recommendation by the Copyright Office is more strict than that of the Freehafer Committee. The latter would permit copying complete works, without written statements by the applicant. There is at present a certain amount of debate as to whether the Freehafer Committee has been too courageous, and has actually subscribed to a greater invasion of proprietary rights than library interests require. From the point of view of CICP's interest in solving a fundamental issue and jointly accomplishing two objectives, namely, to preserve both the essence of the Copyright Law and the freedom of communication in science and scholarship, it is felt that progress has been made but not enough. Neither recommendation attacks the central problem of multiple copying. The late Arthur Fisher once remarked to the undersigned that the single copy is not simply a special case of multiple copies. He felt very strongly on this matter, his basis being what he referred to as the time-honored, inalienable right of scholars to make their own copies of any work for purposes of research. The Copyright Office recommendation follows this concept. But the CICP might ponder this: is there a great economic difference between the making of many single copies of a copyrighted work, over a length of time, and the making of a set of multiple copies, equal in number, in a like period of time? Is not the copyright owner equally deprived of compensation in each case? If the answer is "yes," then we must settle the multiple copy problem in order to reach a full and permanent solution.

4. The same Copyright Law Revision recommends elimination of compulsory licensing for owners of copyrights on music. See the Revision, p. vi.

Comment: Since music is the only field to which compulsory licensing has been applied in the U.S. Copyright Statute, the recommendation removes an important justification for consideration of compulsory licensing of multiple copies being incorporated in the Copyright Statute is remote. This would leave the field clear for voluntary enrollment in any projected Copyright Clearing House for scientific and educational works. It is in line with the feeling expressed by the majority of members of CICP at the last discussion, notably by representatives of the publishers of scientific and educational works.

For the Study Group

L.B. Heilprin
December 13, 1961

Appendix B

Letter of Invitation to the Conference to Investigate Copyright Problems Affecting Communication of Educational and Scientific Information

Washington, D.C.
April 9, 1959

Subject: Conference to Investigate Copyright Problems Affecting Communication of Educational and Scientific Information

Dear ____________: As a result of an informal meeting of an ad hoc committee on copyright matters, it was concluded that there is a present and serious need for a steering committee to consider the subject problem and to propose and attempt to implement its overall solution. The following were present at this meeting:

Dr. Dwight Gray, Science Information Service, National Science Foundation.

Mr. Horace Hart, Printing and Publishing Industries Division, Department of Commerce.

Mr. Robert W. Hampton, Patent Department, Eastman Kodak Company.

Dr. L.B. Heilprin, Council on Library Resources Incorporated.

Miss Anne Jacks, Printing and Publishing Industries Division, Department of Commerce.

Mr. Henry E. Jasper, Apparatus and Optical Division, Eastman Kodak Company.

Mr. Gerald J. Sophar, The Microcard Corporation.

Accordingly, you or a designated representative are invited to attend an all day conference on the above subject which will be held at the Windsor Park Hotel, 2300 Connecticut Avenue, Northwest, Washington, D.C., on Tuesday, May 19, 1959, from 9:30 A.M. to 4:30 P.M. For your information, a list of those invited to participate is furnished as enclosure number 1.

The present copyright system presents an increasingly serious problem because of the tremendous need for reproduction and dissemination of scientific and educational information. The communication of this information is unduly restricted under the overall copyright system.

Only yesterday, we were concerned with the right to make an occasional copy of copyrighted, scientific or research material for individual research.

Today we have efficient methods and techniques for rapid reproduction of printed and graphic material which make it easy and desirable for the individual researcher to copy material when and as he needs it. Now we stand on the threshold of automatic storage, retrieval, and dissemination of information. Methods are already available for inexpensive recompilation of articles, papers and monographs. It is a well known fact today, that scientific information is so fragmented and its sources so diversified, that it is almost a physical impossibility, as well as an economic one, for any group, unless richly endowed, to obtain the necessary permissions to utilize the known copyrighted information as required without building and financing a massive library.

New methods, inventions and techniques may solve many of the physical and intellectual problems of handling and disseminating information. The copyright system, as it now works in practice, does not permit the unrestricted circulation of information. It is felt that a more efficient way must be sought to administer the system either through changes in the law or through some structure which will permit the fullest utilization of the present law.

It is felt that the interests of our country can best be served through the fullest interchange of scientific and educational information. With this objective in mind, we are interested in investigating how the free flow of information can be maintained and advanced on an ethical, legal and efficient basis without depriving the copyright proprietor of his rights.

Dr. Howard A. Meyerhoff, Executive Director of the Scientific Manpower Commission, has agreed to be the moderator for this meeting. A tentative agenda is furnished as enclosure number 2. Time has been allowed for presentation of various viewpoints.

An early reply as to whether or not your organization will be represented at this meeting would be appreciated. For your convenience, a reply form is furnished as enclosure number 3. A luncheon will be served at a cost of $3.00 per person attending the conference.

The informal group calling this conference sincerely hopes that you will recognize the importance of the subject problem and that your organization will participate.

Sincerely,

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Sincerely,

Before

The Committee on the Judiciary
House of Representatives
Subcommittee No. 3

Statement by the Committee to Investigate Copyright Problems Affecting Communication in Science and Education (CICP), on H.R. 4347

My name is Howard A. Meyerhoff. I am President of the Committee to Investigate Copyright Problems Affecting Communication in Science and Education, and Chairman of the Board of Directors. CICP is a non-profit corporation incorporated in the District of Columbia. It was formed by a group of persons interested in solving, before it became too severe, the problem of reconciling the copyright principle with growing use of the new copying and processing techniques. This problem and its possible solutions was discussed by CICP as early as 1958. What we have to say now also applies to the future rather than to the present--we are looking ahead, perhaps to the next twenty five years. Because our recommendations depend closely on this view as presented in the statement, they are summarized after rather than before it.

Joined with me in this presentation are my fellow directors and officers of CICP: Alexander A. Baptie, Laurence B. Heilprin and Gerald J. Sophar.*

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*Alexander A. Baptie, Vice President, Microcard Corporation, West Salem, Wisconsin; Director, CICP
Laurence B. Heilprin, Staff Physicist, Council on Library Resources, Washington, D.C.; Director, and Chairman, CICP Study Group
Howard A. Meyerhoff, Chairman, Department of Geology, University of Pennsylvania, Philadelphia, Pa.; Director, and President, CICP
Gerald J. Sophar, Vice President, Jonker Business Machines, Gaithersburg, Maryland; Director, and Secretary-Treasurer, CICP
Walter J. Derenberg, Professor of Law, New York University School of Law.

You are familiar with Benjamin Franklin's remark to the members of the Continental Congress at the signing of the Declaration of Independence: We must all hang together, or assuredly, we will all hang separately

That is our message today. Gentlemen, if we don't hang together in support of the copyright principle, assuredly it will be weakened, and much of our separate interests will go with it. If we can't overcome our narrow parochialisms and unite, we will not only not get what any of us wants, but contribute to the downfall of an institution essential to the American way of life.

Let us now see how those concerned with copyright form interest groups which differ widely on many points. We will then show how these views can be reduced to essentially two, which cannot be reconciled unless they broaden their viewpoints.

1. The Copyright Interest Groups

One of these groups looks at copyright from the viewpoint of publishers for profit. They and many related industries have developed almost solely because of the protection of "intellectual property" by the Copyright Statute. They are doing well and do not want change. Their interest is to protect protection.

Another interest group are authors who write for money. Their views tend to coincide with those of publishers. If they did not have copyright protection against infringement, selling their intellectual produce (as shown in copyright history) would be as unprofitable as carrying a pig to market through a countryside of starved bandits.

A third interest group are scholarly and scientific authors. In general they are not paid, and not particularly interested in copyrighting. But they are interested in communicating. In fact, they would like their articles copied, and some even urge their publishers not to copyright. More specifically, they stand for freedom of communication in the sense of not copyrighting articles, as long as they are copying the papers of others or encouraging others to copy their own. However, when they use duplicated material to write a textbook, this view is reversed. They feel that to allow chapters in these books to be mimeographed by enterprising youngsters and sold to the class at small or no profit--is unethical. "It hits us right in the royalty check!" they cry, and join the textbook publishers in invoking the copyright principle.

A fourth group are the publishers of scientific and scholarly periodicals. They also are not too interested in copyrighting their publications, but most of them say they must do so in order to maintain the circulation of their journals. This last is rather halfhearted, as they do not take the threat of reduced circulation seriously, trusting that if it should materialize they can charge their subscribers more or obtain a subsidy in the "public interest."

Another group with parochial views are the educators. Education, they say, is our most important national occupation. Therefore, while there is something to what the author-for-pay and the textbook publisher say about "drying up the sources," still, communication and dissemination of ideas with ever freer access are so much more important that the educator should not be hampered in discharging this function. He should be able to make a royalty-free copy or copies if and when they are needed; and even have much free use of educational TV and other audiovisual media. In general, the educators tend not to discriminate between free physical access and free economic access.

The librarians as a group assert that they are in the middle. Granted, they say, were it not for copyright many good works which are their stock in trade would not exist. But their chief clientele are readers who occasionally or often need single copies of documents, single uses of audiovisual material. A single copy, they argue, is all they ever need. It does nobody harm and has been traditionally allowed the student or scholar patiently copying by long-hand. Why not now, by rapid mechanized methods? They even go so far as to say that if a whole book is not in print they should be able to make a single copy for a client, in the "public interest."

The makers of film, photographic materials and reproduction equipment are not greatly concerned whether copies are royalty-free or not. Their main interest is in the number and cost of the copies apart from the royalty. Like the scientists who do not write for pay, they support greater freedom of communication, since this leads to wider use of their materials and equipment.

Another interest group are commercial makers of audiovisual products such as television films used in the educational process. They feel that use of such products should be protected like other copyrighted works. Closely related to them are the makers of computer programs also for sale to education. They feel that use of these programs should be protected.

On the other hand, manufacturers of computers, which can swallow great masses of copyrighted materials and digest and regurgitate them in new configurations, are worried lest these transformations be construed as "copies" and their use an infringement. For if so, they warn, it would mean really serious obstruction to scientific and educational advance. Like the scientists who do not write for pay and the makers of graphic equipment and materials they stand for greater freedom of communication, since this leads to wider use of their equipment.

While there are other groups with special interests in copyright, we mention only one more--the "general public." What is their interest in copyright? In the main they are neither aware of its advantages, nor feel constrained by it. Like the law and medicine and politics--copyright does not ordinarily touch their lives. Nevertheless, in the long run the general public will be the heaviest loser if copyright is weakened.

Summarizing the various interest group views, we may say that each is one of more or less enlightened self interest. Our task in this paper is to increase the enlightenment with ultimate benefit to the self interest.

2. The Two Basic "Factions" in Copyright; an Analogy

If we sort out these various parochial attitudes and interests, we find that they can be roughly divided into two groups: that of the goose which lays the golden eggs, and her assistants; and that of the consumers of the eggs, and their friends and assistants. Since these are intellectual eggs they are, of course, intellectually and spiritually edible. Those who produce the golden eggs of intellectual creativity want protection and encouragement to lay. Those who are nourished by the intellectual feast want freedom to consume. While some consumers recognize that productive geese must be fed and tended, most are aware only of the eggs--and only after these are so accessible as to seem free--i.e., in the public domain. Users in small quantities often tend to confuse free physical access with free economic access. Once the prototype egg is laid, they may rationalize, what unfairness is there in making a little more use of it, say, by making a personal copy? True, the Copyright Statute requires permission to copy--but is it necessary or even possible to ask each time if one needs only a single copy? Obtaining permission for a few copies, under today's conditions of diffuse organization, great speed and fast competition is no longer practically feasible. The enormous amount of trouble and time needed to get permission far more than offsets any slight economic loss to the copyright owner. Besides, there is not necessarily any economic harm. Who can measure so small an amount as the economic effect of one additional copy?

But the goose--who in reality is nobody's goose--has learned statistics. She replies: it may be that the loss to me of a royalty on a single copy is quite small--pennies compared with the dollars it would cost you to get permission for access to my work. But that is the point of what is going wrong. I am paid by the total. One and one and one and one--is becoming more of the total. In future it will make a bigger and bigger difference to me whether my egg is duplicated one-at-a-time, or in an edition, if I am not paid for one-at-a-time copies. I can see my income shrinking--simply because there is no way to pay--because it costs you more to pay for permission to pay me than to pay me.

Before we go further with this discussion, let us introduce a simple analogy from physics. You are familiar with the experiment of hanging a weight to a spring which is fastened to a support. If you pull down the weight and let go, the weight oscillates up and down as the spring is alternately stretched and compressed. The energy in the compressed spring passes into that of the motion of the weight, and back into the spring, and so on. This exchange of energy between weight and spring keeps up until friction brings it to a stop. However, if you pull the weight down again at just the right time (i.e., add just a little energy each cycle, to overcome friction) it will keep on going and like the pendulum in a clock, will keep time.

The point I wish to make is that this simplest of all oscillators is a going "dynamic" system only as a whole. The cycle does not depend only on the spring, nor only on the weight, but on the spring-and-weight. The spring must not be too stiff for the weight, the weight not too heavy or light for the spring. Only when spring stiffness and weight are "matched" does the system oscillate. And so it is with the dynamic system consisting of the goose that lays the intellectual eggs that largely underlie our national creativity, and those who consume them. It is impossible to maintain the creativity cycle if we consider only the producers, or only the consumers. The dynamics according to which this country operates--the "free enterprise" system--requires that both parts be matched to each other. The energy of the producer is his effort in creating and disseminating ideas. This intellectual creativity is transformed mentally--analogously to the way food is transformed into chemical energy--into the productivity of the users. The users then feed back to the producers part of their product in the form of royalties for use of the ideas, and the cycle is completed.

The above is, of course, an oversimplification. But it is exact insofar as the inseparability of the parts is concerned. It is clear that neither can afford to neglect care for the other. Thus consumers who only make use of the ideas of others and thoughtlessly fail to replenish the creativity cycle by paying for them in some way will slow down or stop its dynamic action. Likewise, if the goose and attendants try to hold on to their control by the economics of scarcity--and limit egg-laying, or impede widespread dissemination and consumption--they also will slow down or stop the action.

Let us now resume our examination of the goose's changed position, as it has developed through the advent of new copying and communication techniques. Until recently the goose insured her return on the eggs by the economics of scarcity. Protected by the Copyright Statute, she controlled the number of eggs laid, and largely, how they were consumed. The Statute was effective not only because it was the law, but because it was possible to control production. Today, however, the goose no longer has as tight a monopoly of the supply. There exist many new ways of "multiplying" an egg, once laid. Particularly in the fields of graphic art and printed works the user can, if he wishes, amplify the number of replicas to suit himself, and not consult the goose. The law is still the same, but there is less and less chance that an infringement can be detected. It would take a very large increase in Federal expense to maintain the same degree of control as in the past. Thus the user is in a new and potentially much stronger position. He may not and so far has not chosen to exercise his new power to its fullest extent. The areas where he has chosen to do so are the most highly competitive: industrial production, research leading to new industrial or military products; any situation where there is strong economic, political or other incentive. And so far the consumer has limited himself to types of copying which are less evident infringements on the economic position of the goose. The goose is still fat, and, as the consumers like to point out, among publishers it is still true that the goose hangs high. But some geese are aware of their growing vulnerability to being plucked. Those who are squawking the loudest are the ones that lay very expensive eggs, very slowly, and who find out that from one of these the consumer can make many others. For example: publishers of maps, encyclopedia articles, business advice and reports.

In summary of this situation we may say that the two main factions in copyright are the producers and the consumers; that the position of the producers has been weakened relative to that of the consumers for the short term, i.e., there is less and less probability of a physical way that any law against infringement can be effectively enforced; but that for the long term the essential need of the consumer to preserve the goose that lays the golden intellectual eggs is the same as it was; and the only hope for preserving the dynamic balance and still maintain "free enterprise" is to restore the equality of the two parts of the creativity cycle.

3. A Proposed Solution

We are now on the threshold of enacting a revised Copyright Statute. Nevertheless, if the above analysis is correct, there is less and less probability of achieving by means of a law, the restoration of a situation which essentially is economic. The law can create the "intellectual property" and can state that the author or his assigns has time-limited exclusive right to control it. But no law can control the economics of supply and demand, unless the power so legislating backs up the law with adequate police. And it is precisely here that the new methods of communication have precluded such action by enormously broadening the number of consumers and their access to multiplying equipment. The new "reprographic" equipments resemble more and more do-it-youself printing presses. It is possible for a small office to set up and reproduce in black and white or in color, not one, nor a few carbon copies, but thousands of copies per hour. The perfection of TV and scanning have made facsimile transmission easy and have introduced the possibility of unlimited further multiplication at a distance. This is by no means all. For example, the coming high-density reproduction of images, with 100:1, 200:1 and higher reduction ratios, makes it potentially possible to send thousands of pages on one post-card size film, and set up whole libraries for the cost of the film copies and the postage. Thus dissemination by copying of the printed page will be reduced from a few pennies per page to a few hundredths or a few thousandths of a penny per page. Can the goose hope to hold her own in such a disadvantageous struggle?

The contention which I wish to advance is that, if the narrow views of the consumer and of the producer are allowed to prevail, nothing will prevent the eventual extinction of the goose. We have passed from an economics of scarcity as the means of economic balance to an economics of superabundance in which, without some remedy, there will be no control by the goose except not to lay. But this is control, and as a nation we don't want it. Let me use stronger language: as a nation we would no longer be in the scientific, technical and artistic forefront, were this allowed to occur.

We have seen that there is less and less probability of an effective legal remedy, unless it is accompanied by greater and greater expenditure for enforcement against infringement. Is this the correct direction to take? Should we be willing to pay a higher and higher price for policing a system which is quite essential to our well being, but which until now has required very little enforcement beyond the previously adverse economics of the cost of making copies? Since the cost of copying has gone down and the cost of enforcing the law has or will go up, this kind of solution seems headed toward eventual impracticality.

What then remains? There is no easy way, but there is one which is relatively easier than the others. This is to educate ourselves. We must educate ourselves in two ways. In general we must show the consumer that our national cycle of creativity depends not only on the more obvious use of ideas, but on the less obvious replenishment of the source of ideas. We as a people must voluntarily come to recognize that it is to our own enlightened selfish interest to look out for both parts of the creativity cycle, and we must as a people wish to comply. Not because we have to, but because, with a higher sense of responsibility we can see that unless we do our nation will suffer, and each of us with it.

In a more narrow sense we must educate ourselves to the fact that the change in the balance of economics brought about by more rapid, easier, cheaper ways to copy and use, can be restored if we can supply something now missing: a rapid, easy, cheap way for the consumer to pay the copyright owner for permission to use or copy. The method of payment of royalties has not kept pace with the method of use of the copyrighted material. The methods of copying are new, the methods of payment are old. This is the crux of the economic impasse, for we can realistically count on the voluntary payment for use by the majority of users, if there is an easy way to do so. So the program of education has two objectives: to recognize national self interest in maintaining the creativity cycle, and to develop the engineering or systems analysis of a way to restore the economic flow back to the producer, assuming the first objective is accepted.

4. The "Clearing House for Copyright" Solution

Having got this far I will merely mention that this middle way has been under quiet study for some time. Many have already cast aside, at least temporarily, their parochial interests and views, and by a really enlightened effort, tried to look at the whole cycle, not just at the part which concerns them. No doubt the effort made by the small group called the CICP is not alone in this. At any rate the CICP has, since 1958, been trying to look at the whole problem. It has looked at all of the suggested solutions, and has evolved a set of specifications for any solution, which should restore the balance. What these specifications are has been published, and you may find them in the appended references.[1,2] The general consensus of this group is that the solution most likely to succeed is that of a Clearing House for Copyright (CHC). In its simplest form this is a switching system. See Figure 1. (We changed the initials CCH to CHC, for obvious reasons.) Figure 1 is reproduced from a paper which appeared in 1963, entitled "Working Paper on the Feasibility of a Copyright Clearing House.[3] I quote from this paper:

> Figure 4 (Figure 1 here) is a schematic diagram showing many copying services, and many publishers, related by a copyright clearing house. The CHC acts as a switching device, passing rights to make copies to all CS subscribers in the CHC system, and passing royalties to all subscribing publishers in the system. In both cases participation is voluntary, and regulated by some standard contract. The payments by the set of CS exceed the payments to the set of Publishers by some agreed amount, which amount maintains the switching action. The result is presumably an increase in numbers of copies and increased communication in science, education and other fields; and an increase in revenue of publishers. Since the revenue is largely (but not exclusively) in addition to what the publishers receive for their publications, it is presumably a means of increasing *both* communication among users of the publications, and revenue to publishers of the publications. Properly designed, the CHC should act as a switch which supports science by increasing the volume of communication, and which supports science by increasing the return on the intellectual property which the messages represent. The feasibility study is to determine how such a switching system, now lacking in our national economy, can operate lawfully under the Copyright Statute, and function economically, rapidly and effectively.

There are a large number of details which are at present under investigation. The proposed contracts would grant immunity from infringement suit, and permission to make unlimited multiples of copies or uses, in return for royalties. The royalty rates would be carefully adjusted. They should be *low* enough so as to not constitute a burden on communication. Perhaps they should not exceed ten percent of the cost per copy. They should be *high* enough so that the publishers and owners whom they represent would

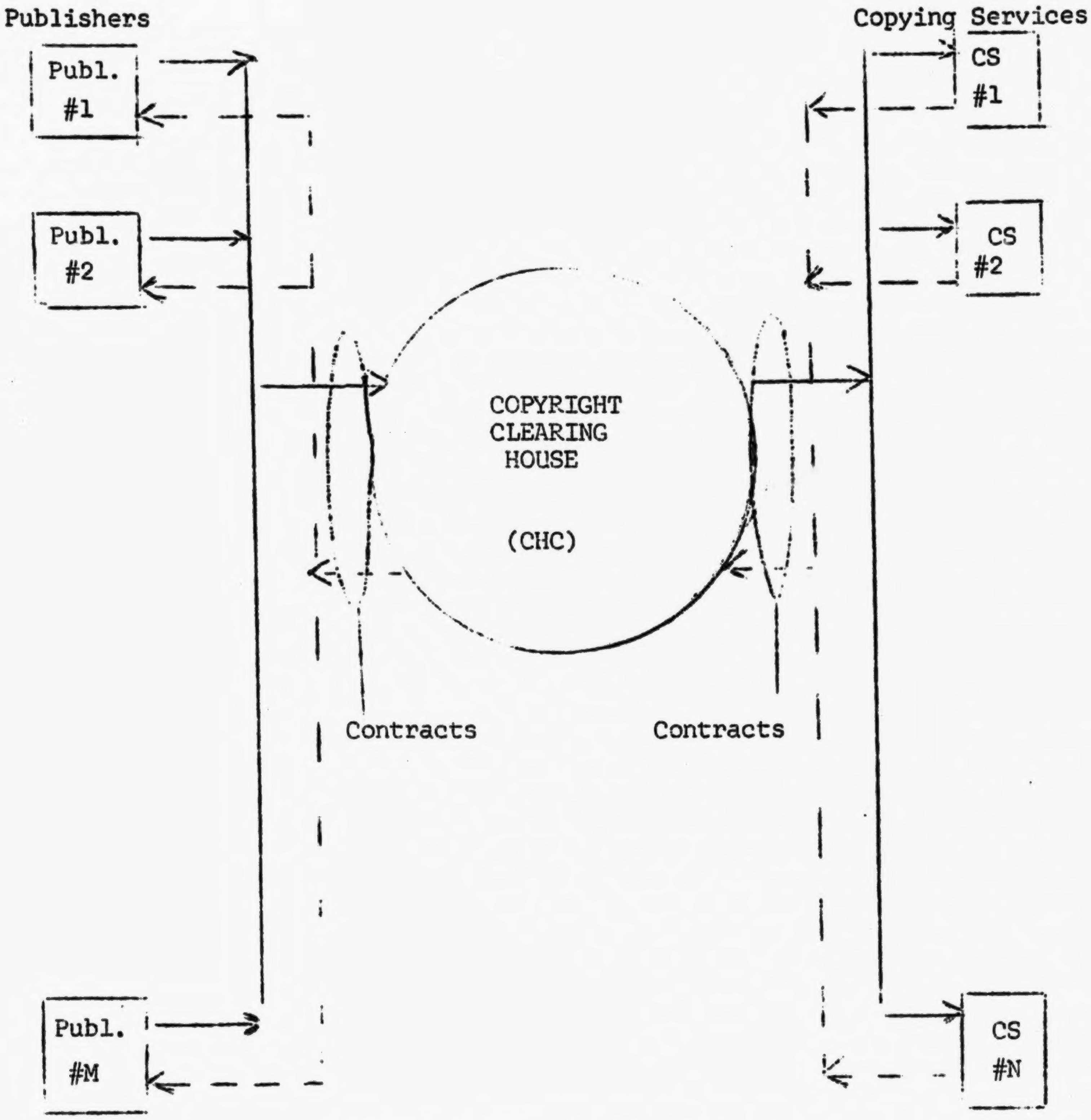
Publishers
Copying Services
Publ. #1
Publ. #2
Publ. #M
CS #1
CS #2
CS #N
COPYRIGHT CLEARING HOUSE
(CHC)
Contracts
Contracts

Fig. 1. Function of Copyright Clearing House

Rights to Copy
Payments

derive real revenue from this form of publication or use; and so that the CHC could maintain itself with a small fee. So far these problems do not appear insurmountable. The most difficult single problem in the CHC system is the determination of a sampling system which will be fair to all publishers, big or little, and not so expensive to use that it will take a large fraction of the collected royalties. At present the CICP is raising funds for a design study of this sampling system. The CICP Systems Committee has also studied a simple stamp system for individual copiers, which might be run by the CHC.

This method of solving the copyright duplicating problem has many virtues. The chief are: (1) it maintains the copyright principle and sustains that part of the creativity cycle which depends upon copyright; (2) it offers an economic switching device--a means for copiers to pay a modest fee for the privilege of copying, and enables them to copy by means of the new techniques, i.e., easily, cheaply, rapidly and lawfully in unlimited amounts; (3) its existence would make unnecessary the appeal to disputed legal principles such as "fair use" in photocopying, and the even more doubtful equating of fair use with the making of single copies; (4) it is readily extendable to other media than graphic; (5) it is based on voluntary adherence to contract, rather than on legal recourse. On the other hand, since the operation will be under the Copyright Statute, the CHC in no way reduces legal recourse in such cases as are necessary.

There is little to be said against this solution. Possibly the worst is that it depends upon the voluntary cooperation of publishers and copiers. A voluntary system, say the "hard-headed," will never work. "There will be too many exceptions." One answer to that is that, in the first place, the present Copyright Statute is also primarily designed for voluntary contract between user and copyright owner. The thing which has broken down is not the voluntary nature of the contract, but the capability to make the contract rapidly, so as to permit user to copy on short notice with his modern means of doing so. The legal recourse against infringement should not obscure the fact that each individual contract between user and copyright owner was and is voluntarily entered upon. What the new CHC would do is to make it feasible to pay a large number of very small royalty payments--rapidly and easily.

Again it is said that the CHC will be too expensive to operate and so cannot be self-sustaining. There may indeed be a fairly high cost for setting up the system. But once in existence there is evidence that it will pay for itself, perhaps easily. As to initial costs of setting the system up, there are many enlightened persons and corporations who may make it their business to see that such an institution is not only set up but does not fail for want of pump priming, once they are satisfied of its objectives. In any case it may seem cheap in the long run if the alternative is a decline in the creativity-productivity cycle. Like democracy, it may be inefficient and uneconomical, but still the best solution.

In closing I would like to add that the CICP is not committed to this solution, although it is associated with their name. In fact the CICP welcomes suggestions, including other ways to solve the main problem--to bring together the producer of copyrighted works, and the consumer. So I conclude as I began: we must all hang together or assuredly, we shall all hang separately. We must renounce our parochial views on copyright if we are to preserve its Constitutional function as a means of promoting the Sciences and the Arts, i.e., creativity.

References

1. First Annual Report of the Committee to Investigate Copyright Problems Affecting Communication in Science and Education. Report of May 1960, reprinted with Addenda in 1961, and reprinted in the Bulletin of the Copyright Society of the U.S.A., Vol. 10, No. 1, October 1962. See also Appendix C in reference 2, below.

2. Reprography and Copyright Law. L.H. Hattery and G.P. Bush, editors. American Institute of Biological Sciences, Washington, 1964. See I(1), IV (14), V(16) and Appendix C.

3. Working Paper on the Feasibility of a Copyright Clearing House. L.B. Heilprin, June 26, 1963. For copies address CICP Secretary G.J. Sophar, 2233 Wisconsin Ave., N.W., Washington, D.C. 2007.

Recommendations for Legislation

The following recommendations are based on opinions as to future conditions, as contrasted with present conditions, i.e., on estimates of the probable evolution of copying and dissemination of copyrighted works within the next quarter century. The CICP recommends that:

1. The payment of moderate fees or royalties be recognized by the Congress as a budget cost in research, development, education and other productive uses of copyrighted materials; this cost being recognized in order to maintain a free enterprise system in which the copyright principle has become essential to the advance of science and the arts.

2. In revising the Copyright Statute the Congress introduce no measure which would prolong or aggravate the present short term technical and economic advantage (as described in the preceding Statement) of the consumer of copyrighted works over the producer; nor which might hinder the normal economic readjustment of this advantage that might be brought about, for example, by establishment of a more effective and rapid means for the consumer to obtain permission to make any number of copies of copyrighted works, and to make prompt payment for same.

3. As an alternative to legislation within the Copyright Statute to correct the economic advantage of the copyright consumer over the producer, the Congress consider chartering a non-profit utility or semi-private corporation, a copyright clearing house, to be operated jointly by representatives of both consumers and producers of copyrighted works, for the purpose of enabling rapid, inexpensive and convenient economic exchange of moderate fees or royalties for rights to copy or to make other uses of copyrighted materials.

June 30, 1965

Appendix C

CICP LIBRARY SURVEY

CICP Library Study

Checklist for Statistical Data
(Selected Questions)

The following questions from the CICP Checklist are furnished you in advance so that interview time will not be expended looking up data from library records. We would appreciate your cooperation in furnishing as accurate a picture of these quantitative aspects of library and copying operations as your records permit. If records are not available or up-to-date, please furnish your best estimate.

2. Approximate total number of patrons using the library per month________
3. Approximate number of volumes and/or document units __________
   Monographs ______________
   Bound serials and/or journals ____________________
   Unpublished reports ____________________
   Others ____________________
   Total ____________________
4. How many current serial and/or journal subscriptions received ______________
9. Number of exposures or pages of each type or form copied per annum.

Type	No. of Pages
____________	____________

10. Number of single copies (separate documents or document units, not pages) per annum ________________
11. Number of multiple copies (of same separate documents) per annum ________________
13. Number of pages copied per year over the past five years
   1962 __________ 1963 ___________ 1964 _________
   1965 __________ 1966 ___________
15. Please list the twenty most frequently copied serials or periodicals (by title, in approximate rank order)
   ____
16. Estimate of relative ages of serials or periodicals copied (in percentages)
   _____% less than 1 year _____% 1 - 2 years
   _____% 3 - 5 years _____% 6 - 8 years
   _____% 9 - 10 years _____% over 10 years
17. Estimate of relative ages of monographic materials from which copies are made (in percentages)
   _______% less than 1 year _____% 1 - 2 years _____% 3 - 5 years
   _______% 6 - 8 years _____ 9 - 10 years _____% over 10 years

18. Approximate percentage of scientific and technical and non-scientific and technical materials copied
______% scientific and technical
______% non-scientific and non-technical (humanities and social sciences)

19. Copying processes used, and number of pages copied per annum by each

Process	No. of Pages
______________	______________

26. Speed of delivery of copies (in percentages)
_____% same day _____% 24 hours _____% 2 days _____ 3 days
_____% 4 days _____% 5 days _____% over five days

37. What percent of the items copied are copyrighted materials
__________%.

CICP LIBRARY STUDY

Identification Key   Checklist Number___

1. Name of library ____________________

2. Location (city, state) ____________________

3. Major source(s) of financial support ____________________

4. Name(s) and title(s) of person(s) interviewed

Name	Title
____________	____________

5. Date(s) of interview(s)

Month	Day	Year
________	______	______

6. Can you furnish copies of any of the library's documents relating to copying or copyright matters? (Include instructions to staff, opinions of legal counsel, policy statements of executive, administrative, or policy boards, etc.)

Checklist of Query Topics

1. Major Subjects dealt with ________________________________
____
2. Approximate total number of patrons using the library per month ________
3. Approximate number of volumes and/or document units
   - Monographs ________
   - Bound serials and/or journals ________
   - Unpublished reports ________
   - Others ________
   - Total ________
4. How many current serial and/or journal subscriptions received ________
5. Types of users (general public, students, scientists, etc.)____
6. Major activities and/or subjects of users (if applicable) ____
7. Storage media of different forms (books in hard copy, journals on microfilm, etc.) ________________________
8. Types or forms of published materials copied (journal articles, book chapters, etc.) ________________________
9. Number of exposures or pages of each type or form in question No. 8 copied per annum.

Type	No. of Pages
________________	________________

10. Number of single copies (separate documents or document units, not pages) per annum ________
11. Number of multiple copies (of same separate documents) per annum ________
12. Percent of multiple copy requests expedited by the library and percent by outside facilities.
    - ______% by library
    - ______% by facilities
13. Number of pages or exposures copied per year over the past five years
    - 1962 ________ 1963 ________ 1964 ________
    - 1965 ________ 1966 ________
14. What percent of copying of collection materials is performed for archival or storage purposes, and what percent for specific request purposes.
    - ______% archival
    - ______% request
15. Please list the twenty most frequently copied serials or periodicals (by title, in approximate rank order)
16. Estimate relative ages of serials or periodicals copied (in percentages)
    - _____% less than 1 year _____% 1 - 2 years _____% 3 - 5 years
    - _____% 6 - 8 years _____% 9 - 10 years _____% over 10 years

18. Approximate percentage of scientific and technical and non-scientific and technical materials copied
____% scientific and technical
____% non-scientific and non-technical (humanities and social sciences)

19. Copying processes used, and number of pages copied per annum by each

Process	No. of Pages or Exposures

20. How does the library decide whether or not to copy an item?
____

21. Limits on number of single copies per user ____________
22. Limits on number multiple copies of the same item ________
23. By what process(es) are multiple copies made? __________
24. What limits, if any, does the library place on the types or status of persons for whom copies are made? __________
25. What limits, if any, does the library place on the types of documents or document units it copies? ______________
26. Speed of delivery of copies (in percentages)
____% same day ____% 24 hours ____% 2 days ____% 3 days
____% 4 days ____% 5 days ____% over five days
27. Factors or priorities governing speed of copying ________
28. What items, or types of items, if any, are copied for library clients, automatically, or on a continuing basis, without specific request? ______________________
29. Charges per page or other unit. (Break down by copying process.)

Charge	Process
________	________

30. What mechanisms are used for collection of copying charges?
____

31. Is the library now, or was it in the past, part of, or involved in, any formal or informal network or interlibrary relationships? (Give details as to structure and sponsorship of network.) ______________________
32. Is the library now contemplating entering any formal or informal network or interlibrary relationship in the future? (Give details as to possible structure and sponsorship of network.) ______________________
33. What provisions does the library make for getting permission to copy copyrighted items? ______________
34. Has the library stopped or altered any of its copying services because of copyright questions? ______________
35. Have any copyright owners placed, or attempted to place, limitations on copying of their materials, and, if so, how did this affect the library's copying practices? (Give details, results of action.) ______________

36. How do you relate your copying practices with the present or projected copyright law? (The present copyright law grants exclusive rights to the copyright owner for the reproduction and distribution of copies and does not in any way define so-called "fair use."

The projected copyright law grants exclusive right to copyrighted works to the owner to reproduce the copyrighted work to the public by sale or other transfer of ownership or by rental, lease or lending. The projected law contains a "fair use" clause (Paragraph 107) which permits reproduction of copies for purposes such as criticism, comment, news reporting, teaching, scholarship or research. In determining whether the use made of a work is a "fair use" the factors to be considered include:

1. The purpose and character of the use;
2. the nature of the copyrighted work;
3. the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
4. the effect of the use upon the potential market for or value of the copyrighted work.

The projected law also permits a non-profit institution having archival custody of collections of manuscripts to reproduce a copyrighted work for purposes of preservation, security and for deposit.) How do you relate your copying practices with the present or projected copyright law? ______________

37. What percent of the items copied are copyrighted materials? __________%

38. Can you estimate what percent of all copying is done directly by users without assistance or guidance of library staff? __________%

39. How would payment of per page or per item royalty to copyright owners affect the library's copying practices? ________

40. If bookkeeping and administrative procedures were eliminated as a responsibility of your library, would payment of a per page or per item royalty to copyright owners affect the library's copying practices? ______________

41. If the user would absorb the whole cost of per page or per item royalties, how would this affect the library's copying practices? ____________

42. What would be the library's response to or attitude toward the concept of a clearinghouse for royalties? (The clearinghouse would be an organization which would have the following two functions:

1. It would be a single point to be contacted for blanket permission for reproduction of copyrighted material.

2. It would collect and disburse monies for the use of copyrighted material from users to copyright holders.)

---

43. If a clearinghouse were to be established, what type of control or sponsorship would you favor for its organization?

____

This is the end of the questionnaire. Thank you for your cooperation.

NOTES: ____

____

CICP SURVEY

Survey Table I

Sponsorship	No. of Libraries
U.S. Government	12
Academic	20
Municipal or State Government	5
Industrial and Corporate	13
Nonprofit Research	6
Professional Society or Trade Association	10
TOTAL	66

CICP SURVEY

Survey Table V

Principal Users in Rank Order Reported

Type of Users	No. of Libraries Reporting
Scientists and Engineers	53
Students	38
Administrative and Managerial	20
General Public	10
Writers and Reporters	5

CICP SURVEY

Survey Table VI

Ranked Order of Activities or Subject Interests of Users

Types of Activities/ Subjects of Users	No. of Libraries Reporting
Research and Development	43
Education	21
Teaching	10
Administration (includes Research)	9
Marketing	6
Writing	3
Quality Control	2
Class Assignments	1
Not specified	14

CICP SURVEY

Survey Table VIII

Principal Reported Types or Forms of Library Materials Copied, by 1st, 2nd or 3rd Order Rank

Types or Forms Copied	Reported Importance of Material Copied		
	1st	2nd	3rd
Journal articles	51	6	1
Book chapters	6	22	3
Reports	2	5	8
Patents	-	5	-
Miscellaneous - theses, maps, correspondence, office records, notes, etc.	1	3	7
TOTAL	60	41	19

NOTE: Six Libraries did not provide data on this question.

CICP SURVEY

Survey Table IXa

Number of Pages Copied by Types of Forms

	Libraries Reporting Document Types and Forms Copied				
	Journals	Books	Reports - Published/ Unpublished	Patents	Books & Journals (not separately re-reported)
1 - 20,000	13	9	2	3	1
20,001 - 40,000	5	2	2	-	-
40,001 - 60,000	-	2	1	-	1
60,000 - 100,000	2	-	1	-	-
100,001 - 250,000	7	1	-	1	1
250,001 - 500,000	5	1	2	-	-
500,001 - 750,000	5	-	-	-	-
750,001 - 1,000,000	-	-	-	-	-
1,000,001 - 2,000,000	1	-	1	-	1
2,000,001 - 3,000,000	-	-	-	-	-
3,000,001 - 4,000,000	-	-	-	-	-
4,000,001 - 5,000,000	-	-	-	-	-
More than 5,000,000	-	-	1	1	1

NOTE: Number of libraries not reporting by form or type - 22

CICP SURVEY

Survey Table IXb

Reported Number of Annual Exposures

Total Number of Exposures	Number of Libraries Reporting
1 - 20,000	12
20,001 - 40,000	5
40,001 - 60,000	2
60,001 - 100,000	3
100,001 - 250,000	9
250,001 - 500,000	11
500,001 - 750,000	2
750,001 - 1,000,000	2
1,000,001 - 2,000,000	5
2,000,001 - 3,000,000	-
3,000,001 - 4,000,000	-
4,000,001 - 5,000,000	-
More than 5,000,000	4
Unspecified	11
TOTAL	66

CICP SURVEY

Survey Table XI

Number of Multiple Copies of Same Document for Same Patron, Per Year

Number of Multiple Copies	Number of Libraries Reporting
No Multiple Copying	22
1 - 100	5
101 - 200	1
301 - 400	-
401 - 500	-
501 or more	4
Reported in percentage of total copying between 1 - 5%	3
Reported as "Negligible," "Rarely," "Administrative Material only," "Occasionally," "Very Few."	12
No data, not available, etc.	19

CICP SURVEY

Survey Table XIII

Distribution of Total Annual Exposure by Reporting Libraries, 1962 - 1966

	Number of Libraries Reporting by Years				
Number of Pages	1962	1963	1964	1965	1966
1 - 20,000	8	5	5	6	12
20,001 - 40,000	3	1	1	2	2
40,001 - 60,000	-	2	2	-	2
60,001 - 100,000	4	6	4	6	5
100,001 - 250,000	8	10	11	10	11
250,001 - 500,000	2	3	6	6	10
500,001 - 750,000	1	3	-	3	2
750,001 - 1,000,000	-	-	3	3	2
1,000,001 - 2,000,000	2	2	1	2	5
2,000,001 - 3,000,000	1	-	1	1	1
3,000,001 - 4,000,000	-	-	-	-	-
4,000,001 - 5,000,000	-	-	-	-	-
< 5,000,000	1	1	1	3	3
Total No. Libraries Reporting	30	33	35	42	55

CICP SURVEY

SURVEY TABLE XVI

Age Distribution of Serials or Periodicals Copied as Per Cent of Total Copies

Relative Ages	Number of Libraries Reporting - by Percentages 1-20	21-40	41-60	61-80	81 - 100	Total Libraries Reporting in Each Age Class
Less than 1 year	19	7	5	5	2	38
1-2 years	23	12	4	-	-	39
3-5 years	33	6	1	-	-	40
6-8 years	34	1	-	-	-	35
9-10 years	34	-	-	-	-	34
Over 10 years	19	6	5	1	1	32
Reported						
"Less than 3 Years"	-	2	-	-	-	2
"3-10 years"	-	1	-	-	-	1
"6 years or more"	-	-	1	-	-	1

Number of libraries not reporting - 24

CICP SURVEY

Survey Table XVII

Age Distribution of Monographic Materials Copied as Percent of Total Copies

	Number of Libraries Reporting-by Percentages					
Relative Ages	1-20	21-40	41-60	61-80	81-100	Total
Less than one year	12	2	1	1	1	17
1-2 years	11	8	-	-	-	19
3-5 years	10	7	1	1	-	19
6-8 years	14	1	-	-	-	15
9-10 years	12	1	-	-	-	13
Over 10 years	7	1	3	1	-	12
Reported						
"Less than 3 years"	1	-	-	-	-	1
"Less than 6 years"	-	-	-	-	1	1
"6-10 years"	-	-	1	-	-	1
"6 or more years"	2	-	-	-	-	2
"9 or more years"	-	1	-	-	-	1
Unspecified	1	-	-	-	-	1

Number of libraries not reporting - 45

CICP SURVEY

Survey Table XVIII

Estimated Percentage of Scientific and Technical Materials Copied to all Material Copied

Percentage	Number of Libraries Reporting
1 - 20	5
21 - 40	2
41 - 60	1
61 - 80	11
81 - 100	32
Unspecified	15
TOTAL	66

CICP SURVEY

Survey Table XXI

Types of Limits Imposed on Unrestricted Single Copy Reproduction

Type of Limitation	Number of Libraries Reporting
Numerical	7
Budgetary	4
Depends on available machine	8
Depends on available staff	5
No limits imposed	45
Unspecified or no data	2

Number of libraries not reporting - 2

CICP SURVEY

Survey Table XXII

Degree to Which Limits are Imposed on Copying Multiple Copies of Same Document for Same Patron

Limits Applied	Number of Libraries Reporting
Always	49
Mostly	2
Seldom	2
No set policy, no limit	12
Unspecified (no data)	1
TOTAL	66

NOTE: One library with uncontrolled (coin-operated) copy machine requests patrons not to make multiple copies if they notice them doing so, but leave it up to the patron to conform to policy.

CICP SURVEY

Survey Table XXIII

Copying Process Used for Multiple Copy Repreoduction

Process	Number of Libraries Reporting
DTR	1
Multilith	3
Silver halide	9
Xerography	29
Thermography	-
Conventional letterpress	-
Gelatin dye	-
Offset	-
Libraries not reporting	30

CICP SURVEY

Survey Table XXVI

Speed of Photocopy Service by Percent of Orders Filled Within Specified Time Period

Days Elapsed for Fulfillment of Copy Order	Reported Frequency of Percent of Orders Filled in Time Specified				
	1-20	21-40	41-60	61-80	81-100
Same day	8	7	7	5	19
24 hours	21	6	4	5	5
2 days	17	6	3	-	1
3 days	12	3	-	-	1
4 days	7	2	-	-	-
5 days	11	-	1	2	-
Over 5 days	10	-	2	1	5

Number of libraries not reporting - 4

CICP SURVEY

Survey Table XXVII

Factors or Priorities Affecting Speed of Fulfillment of Copy Orders

Factors or Priorities	Number of Libraries Reporting
Machine speed and capacity	17
Priority given to "Rush" orders	27
Book stack location	3
Library staff availability	7
Status of user	10
Bibliographic verification	-
Unspecified	13

CICP SURVEY

Survey Table XXIX

Distribution of Charges per Exposure by Copying Process or Type of Machine

	Number of Libraries Reporting by Process			
Charges	Xerox	Silver Halide	Microfiche	Coin-operated
Free	12	4	-	-
$ .01-.05	4	3	-	-
.06-.10	16	3	-	5
.11-.15	6	1	-	-
.16-.20	2	-	-	-
.21-.25	3	-	-	1
.26-.30	3	1	-	-
.31-.50	-	1	-	-
More than $ .30	1	-	-	-
More than $ .50	-	6	1	-
Flat rate per complete item	4	-	-	-

Libraries reporting interdepartmental bookkeeping, no data - 7

CICP SURVEY

Survey Table XXXI

Reported Frequency of Respondent's Participation in Existing Network Relation, by Type of Relation

Type of Cooperative or Network Function	Number of Libraries Reporting
Conventional I.L. Loan	57
Facsimile Transmission	19
Perform Announcement and other services for other libraries	13
Act as "court of last resort" for other libraries	10
Cooperative cataloguing	6
Part of statewide library network	6

CICP SURVEY

Survey Table XXXII

Reported Intention or Planning to Participate in Network Relation in the Future

Plans	Reporting Libraries
Plan or intend to participate in network relation	26
Do not plan or intend to participate in network relation	28
Unspecified	12
TOTAL	66

CICP SURVEY

Survey Table XXXVI

Libraries' Opinion as to Reconciliation of their Own Copying Practices with Present and/or Projected Copyright Law

Judge themselves in compliance with "fair use" interpretation	64
Feel they occasionally violate law	1
Unspecified	1
TOTAL	66

CICP SURVEY

Survey Table XXXVII

Percent of Total Copied Material Estimated to be Copyrighted

Percent Copyrighted Material of Total Copied (estimated)	Libraries Reporting
1 - 20	6
21 - 40	5
41 - 60	10
61 - 80	10
81 - 100	13
Unspecified	22
TOTAL	66

CICP SURVEY

Survey Table XXXXIII

Type of Control Mechanism or Sponsorship Favored in Event Clearinghouse were to be Established

Type of Institution Favored to Exert Control or Sponsorship	Libraries Reported
Independent Agency	7
Government Agency	7
Publishers, Users and Library Profession	6
Publishers and Library Profession	5
Library Profession	4
Publishers and Users	4
Publishers and/or Authors	3
Publishers, Government and Users	3
"All Interested Parties"	2
Publishers, Library Profession and Government	1
Unspecified	25

Appendix D

February 5, 1967

COMMITTEE TO INVESTIGATE COPYRIGHT PROBLEMS AFFECTING COMMUNICATION IN SCIENCE AND EDUCATION (CICP)

Copyright Clearing House Feasibility Study

Study No. 1. Instructions for completion of Form 1000 and of Forms 1001A and 1001B (Form 1001B is a continuation sheet of Form 1001A and all instructions applying to 1001A also apply to 1001B. Therefore, no further reference will be made to 1001B.)

Instruction Sheet

General. Two types of Forms are provided:

Data Transfer Sheet (Form 1000)
Summary Sheet (Form 1001 A & B)

The Data Transfer Sheet is used to record information from the participating library's own particular record form or transaction record. A separate Data Transfer Sheet, or set of sheets, is to be used for each individual publisher of material copied. The Summary Sheet is then used to record a summary, by publisher, of the information on the Data Transfer Sheets.

In transmitting to CICP final results of the sampling, please send both the sets of Form 1000 and the summary Forms 1001A.

Instructions for Form 1000

Numbering of Sheets. Use a separate line on the Form 1000 for each transaction. Use as many sheets of Form 1000 as required to list all the transactions. Number the sheets successively in the box "Sheet___ of___ Sheets." Start the recording of transactions for each publisher on a new Form 1000. Number the first sheet of the set of sheets for the publisher "1," etc. The second figure entered will be the total number of Forms 1000 filled out for that publisher.

Item Numbers on the Form. Items on both Form 1000 and Form 1001 are identified by superscripts. Except for superscript "1," these item numbers refer to successive columns on the Forms. Superscript 1 refers to the item "Publisher" in the heading box on Form 1000.

Columns. Each column, in addition to its descriptive heading, is identified by a letter or double letter: "aa," "a" through "h." These letters identify matching columns on both forms. (See instructions for transfer from Form 1000 to Form 1001A at end of these instructions.)

Instructions for Specific Items, Form 1000

1. Publisher. By publisher is meant any kind: private, public, for profit, non-profit, etc. Only one publisher's name is to be entered on each Form 1000. For example, in making copies from SCIENCE, list A.A.A.S. on one Form 1000; in copying from the Journal of Modern History, list U. of Chicago Press on another Form 1000. List only the publisher, whether the work is copyrighted or not, or even if it is copyrighted but the publisher is not the copyright owner. E.g., in copying from ECOLOGY, list Duke U. Press and not the Ecological Society of America.

A line entry on Form 1000 indicates one transaction, i.e., preparation of a single copy of all or part of any one title of the publisher whose name appears at the top, item 1. Completion of an order for a customer may involve one or several transactions, i.e., several Forms 1000. The purpose of Form 1000 is simply to re-classify the contents of the customers' orders so that at the end of the sampling period all the transactions relating to one publisher will be individually listed on one or more pages of Form 1000.

2. Titles. A title is one article or part of an article from a journal, encyclopedia, or other work, one report or part of a report from a volume of proceedings or a symposium, or one or more chapters or parts of chapters of a book. As indicated in "1" above, a line entry on Form 1000 corresponds to a single title copied in whole or in part from a publisher's work. Note: No provision has been made for the actual title on Form 1000, nor is it needed.

3. Number of Exposures from Title. In general, the number of exposures per title is the same as the number of frames, but less than the number of pages copied. Exposures include all exposures of publisher's works made during the sampling period, copyrighted or not.

Books and Journals. "Books" include books, monographs, transactions and proceedings. "Journals" include periodicals appearing more frequently than one issue per year. Since the tabulator cannot tell frequency from titles, include under "books" doubtful cases such as annuals where the latter word appears in the title, as with "Annual Reviews", "Progress in----", etc. Under "Other" list total number only, not types or formats.

Note: There should be only one entry ("Book", "Journal" or "Other") per numbered line under main column 3 on Form 1000.

4. Prints. By "Hard Copy" is meant an "eye readable" copy; by "Microform Copy" is meant any copy requiring an optical aid for reading or viewing.

A print is a copy or reproduction from an exposure. In many cases the exposure and print are the same (e.g., Xerox 914 copy).

5. Works Bearing Copyright Notice, by Date Grouping. These works bear one of the following symbolic forms notice: C, "Copyright," or the abbreviation "Copr," accompanied by the name of the copyright proprietor and (usually) the year of copyright; and properly recorded foreign copyright notices. These exposures are to be entered according to year or range of years under appropriate column heading. Use the latest copyright year.

Note: There can be only one entry per line under main column heading 5, on Form 1000 (i.e., under only one copyright year or range of years).

Note: The number of exposures from Title (item 3, columns a, b,c) include exposures of both copyrighted and uncopyrighted titles; therefore they include the copyrighted entries in item 5, columns f--f.

6. Journal Articles Copied. This breakdown applies only to published works which appear as journal articles. It requires the sampling official to note specifically (with a check mark in one or the other column on Form 1000) whether the article is copied in full or in part.

Note: There can be only one check mark per line under this main column heading (i.e., under "As a Whole" or under "In Part.")

Instructions for Form 1001 (A and B)

Transfer from Data Transfer Form 1000 to Summary Form 1001A

You have used sets of as many sheets of Form 1000 as necessary to transfer from your own records all of one publisher's titles copied during the sampling period. Please list only one publisher per line on Form 1001A, using as many lines (and sheets) as are needed to list all publishers whose works are copied during the sampling period. There should be as many line entries on Form 1001A as there are sets of Form 1000. A line entry on Form 1000 indicates that one transaction was completed on a single title per publisher. A line entry on Form 1001A is the sum of all lines for one publisher transferred from the set of Forms 1000.

The following instructions refer to the lettered column headings on Forms 1000 and 1001A (See also "Columns" in instructions for Form 1000)

Column	Instruction
aa	Enter Total number of titles per publisher in column "aa" of Form 1001A after Publisher's name.
a,b,c	Total each column on Form 1000 and enter in columns "a," "b," "c," of Form 1001A on the line corresponding to the publisher.
d,e	Total each column and enter in columns "d" and "e" of Form 1001A on line corresponding to publisher.
f	Total each of these columns and enter under appropriate date grouping "f" of Form 1001A, on line corresponding to publisher.
g,h	Total each column and enter in columns "g" and "h" of Form 1001A, on line corresponding to publisher.

You are reminded to send to CICP both filled out Forms 1001A and the sets of Forms 1000, following the end of the test.

THANK YOU!

COMMITTEE TO INVESTIGATE COPYRIGHT PROBLEMS AFFECTING COMMUNICATION IN SCIENCE AND EDUCATION (CICP)

Copyright Clearing House Feasibility Study

Study No. 1/Form 1000 DATA TRANSFER SHEET Distribution of Copying per individual publisher: by type of materials, form of copies

Inclusive Dates of Recording:
From 1967 to 1967

Publisher:[1]

Sheet ____ of ____ Sheets

For Explanation of Superscripts See
Instruction Sheet for No. 1000

Library or Copying Service:

Line[2]	No. Exposures from Title[3]			No. of Prints[4]		No. of Exposures from Works Bearing Copyright Notice, By Date Grouping[5]													Total No. Journal Articles Copied[6]	
	Book	Journal	Other	Hard Copy	Micro-form	1967	1966	1965	1964	1963	1962	1961	1956-1960	1951-1955	1941-1950	1931-1940	Before 1931		As a Whole	In part
aa	a	b	c	d	e												f		g	h
1																				
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

February 6, 1967

COMMITTEE TO INVESTIGATE COPYRIGHT PROBLEMS AFFECTING COMMUNICATION IN SCIENCE AND EDUCATION (CICP)

Copyright Clearing House Feasibility Study

Study No. 1/Form 1001A SUMMARY SHEET Distribution of Copying: by Publishers, Types of Materials, Form of Copies

Date of Report:

Inclusive Dates of Sample: From 1967 to 1967

Sheet ____ of ____ Sheets

Reported By:

Library or Copying Service:

For Explanation of Superscripts See Instruction Sheet

Address:

Publisher[1]	Total No. Titles[2]	Total No. Exposures[3]				Total No. of Prints[4]		Total No. of Exposures from Works Bearing Copyright Notice By Date Groupings[5]												Total No. Journal Articles Copied[6]	
	aa	Book a	Journal b	Other c	Total	Hard Copy d	Microform Copy e	1967 f	1966	1965	1964	1963	1962	1961	1956-1960	1951-1955	1941-1950	1931-1940	Bef. 1931 f	As a Whole g	In Part h

February 6, 1967

Appendix E

Agreement

For Extended Use of Publications

This agreement made

between the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103 (hereinafter referred to as "ASTM") and

witnesseth:

1. ASTM is the copyright owner of its publications. The sale of any of these publications does not carry with it the right to reproduce any publication in whole or in part, by photocopying, electrostatic copying, or any other copying method; nor does it carry the right to convert the copyrighted material to magnetic tape for data manipulation, storage, retrieval, or dissemination by computer printout, display or remote facsimile transmission.

2. Information storage, retrieval and dissemination programs depend on the ability to duplicate documents.

3. No system of permissions and payments exists to compensate ASTM for the use of its publications as the source document for duplication either by mechanical, electronic or photomechanical means. Nor does an equitable pricing structure or accounting system exist so that a user of ASTM publications can make proper payment to ASTM for duplicating ASTM's publications.

4. To make possible the widest use of ASTM publications in information storage, retrieval and dissemination programs, and to permit the widest possible duplication of ASTM's publications, ASTM has appointed the Committee to Investigate Copyright Problems, Inc., 2233 Wisconsin Avenue, N.W., Washington, D.C. 20007 (hereinafter referred to as "CICP") to develop a system of access, permissions and payments equally beneficial to ASTM and users based on actual use statistics.

5. To facilitate the development of accurate data, ASTM agrees to suspend certain of its copyright privileges for a two year period. During this period of time

   may duplicate ASTM publications for any information storage, retrieval, or dissemination program free of any threat of suit for infringement or injuncture proceedings, providing that at no time, no more than 50 copies of any work is made by

6. In turn,

   agrees to provide CICP with records of the amount and kind of copying, storage, retrieval or dissemination of ASTM publications on forms to be provided by CICP for this two year period. The sole purpose of the gathering of this data shall be to obtain factual information for the basis of designing a practical system of permissions and payments.

7. The specific data obtained by CICP during this two year period from

shall not be used by ASTM for the purposes of legal proceedings by ASTM against

.

8. Since the purpose of the CICP study is to give
the widest flexibility in the use of ASTM publications without hindrance of copyright restrictions and since it is in the interest of
to have developed a practical system of permissions and payments, then
agrees to donate $50. per year to CICP during the period of this study. This amount shall be accepted as dues for a one-year membership in CICP.
shall be represented within CICP on an appropriate Standing Committee.

9. Upon completion of the study ASTM and CICP pledge that they shall endeavor to establish a clearinghouse, open to all publishers and users, to administrate an equitable system of permissions and payments.

In Witness Whereof, the parties have executed this Agreement this day of , 1967

Attest:

American Society for Testing and Materials by:

Executive Secretary

Attest:

by:

Agreement

Copyright Study

This agreement made , 1967, between the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103 (hereinafter referred to as "ASTM") and the Committee to Investigate Copyright Problems, Inc., 2233 Wisconsin Avenue, N.W., Washington, D.C. 20007 (hereinafter referred to as "CICP") witnesseth:

I. Copyright law gives to the author--in this case ASTM--the exclusive rights to his writings. This right is virtually complete except for the court-developed concept of "fair use," which allows very limited copying of material for such practical reasons as review and quotation. The practical value of this right is an economic one. It encourages an author or publisher to invest in the preparation of materials such as ASTM Standards because he is assured that he will receive income based on the extent to which he can market and distribute the publications. Modern duplicating and information storage, retrieval and dissemination technology is possibly eroding the income value of ASTM copyrights and certainly not providing it with a fair return from the increased distribution of the material that results from the users' use of this technology.

ASTM is in agreement with CICP's goal "to find a way to protect the 'exclusive right' of an author to his 'writings,' while permitting the advantages of modern information systems to become as useful as they may without weakening or threatening the economic urge and the need to create." ASTM is aware of the U.S. Office of Education supported study now under way being done by CICP to determine the knowledge and understanding of copyright law by information clearinghouse managers and their legal counsellors; to obtain information on programs which have been aborted, curtailed, or suspended because of copyright; and to develop guidelines to evaluate the quantity, quality and economic value of copyrights materials, and is interested that the preliminary effort be continued and expanded.

1. CICP's objectives as described in its certificate of incorporation, September 21, 1960, are:

The particular business and objectives of the society shall be: as a nonprofit corporation, in the interest of improved scientific and educational communication and in furtherance of national defense and the public welfare, (a) to determine the facts with respect to the dissemination of scientific and educational information as it is affected by copyright and (b) to develop, and to assist in the implementation of, a plan under which the making of copies of copyrighted material might be suitably authorized on a basis fair to the owners of the material and to the makers, distributors and users of such copies.

2. ASTM is an international, privately-financed, nonprofit, technical, scientific and educational society, primarily engaged in publishing standardization of methods of test, specifications, recommended practices, definition of terms, and of data relating to materials. More than 60% of its income is derived from the sale of Books of Standards, technical proceedings and other materials to industry, institutions and to other organizations requiring engineering data, as well as to individual engineers.

II. Therefore:

1. ASTM appoints CICP the exclusive agent and sole organization to execute the offer of a two-year moratorium to users of ASTM materials and publications in accordance with sections 3-7 of the basic agreement which ASTM is prepared to offer any user of ASTM materials or publications.

2. ASTM will work closely with and assist CICP to make agreements similar to this one with other engineering societies in order to add strength to the premise stated in section 7 of the agreement between ASTM and the individual users of ASTM materials and publications, so that the basic offer of a two-year moratorium to the user will cover the widest title list of engineering publications and materials possible, so that the planned surveys will encompass as broad a base of engineering publications and data as possible. The reference to engineering societies is illustrative and natural, but does not infer that the effort is limited to engineering societies.

3. CICP guarantees ASTM continuous accessibility to the survey and ASTM and CICP mutually agree to the specific statement in section 5 of the agreement between ASTM and the individual user of ASTM materials or publications.

4. ASTM will make a joint effort with CICP and any other engineering societies which may enter into similar agreements to obtain the necessary grants and support contracts to implement the proposed surveys and evaluations, and eventual design of a system of access and payments. The reference to engineering

societies is illustrative and natural, but does not infer that the effort is limited to engineering societies.

5. ASTM will pay CICP $50 per publication per year during the two-year period of the contract (minimum, $250; maximum, $500) and will designate a delegate to CICP Standing Committee 2--Scientific and Learned Societies which Publish Journals.

6. CICP will provide ASTM with a half-yearly progress report on the survey effort and any other pertinent data as a result of this effort.

7. Both CICP and ASTM will provide direction and take responsibility for the joint effort to sign user participants agreements to the ASTM-offered moratorium. As soon as funds become available CICP will appoint a full-time contract negotiator to direct this phase of the program as well as the negotiation of similar agreements with other societies. ASTM agrees to finance the first printing and mailing of the ASTM offer and description of the moratorium to the users of ASTM materials or publications.

8. This agreement is for a period of two years and may be renewed for a like or shorter period with the mutual consent of ASTM and CICP.

In Witness Whereof, the parties have executed this Agreement this 29th day of June, 1967.

American Society for Testing and
Materials by:

/s/ Thomas A. Marshall, Jr.
Executive Secretary

The Committee to Investigate Copyright
Problems, Inc. by:

/s/ Gerald J. Sophar
Executive Director